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Protecting Euro 2016 and the Rio Olympics

Lessons learned from London 2012
RICHARD WALTON

The Road to the Brussels Attack

A look at Belgian radical networks
PIETER VAN OSTAEYEN

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FROM THE EDITOR

Islamic State-inspired terrorism returned to the headlines this month on both sides of the Atlantic. In Orlando the United States suffered its deadliest terrorist attack since 9/11 while in France a police couple were stabbed to death in their own home by a French extremist who threatened that France would become a “cemetery” during the Euro 2016 soccer championships. In our cover story Richard Walton argues the threat to Euro 2016, which concludes on July 10, is more acute than for any other international sporting event in history because of the unprecedented threat to France from the Islamic State and its followers. Walton was the head of the Metropolitan Police’s Counterterrorism Command during the London Olympics and looks at lessons learned for protecting Euro 2016 and the upcoming Rio Olympics. In our second cover story Pieter Van Ostaejen outlines how the emergence of three clusters of radical extremists in Brussels and Antwerp is the key reason Belgium has contributed more foreign fighters to Syria and Iraq, per capita, than any other Western nation.

Sam Mullins analyzes all 47 cases of jihadist-inspired violence between 2012 and the June 12 Orlando attack. He finds that knife attacks like the one in France this week were the most common while shootings like the one in Orlando were the deadliest. Robert Graham, a cyber security specialist, examines how terrorist groups are exploiting powerful end-to-end encryption to try to communicate securely. He explains that while “end-to-end” encryption technology cannot be put ‘back in the box,’ intelligence agencies still have several strategies available to intercept the “ends” of communications. The June issue also focuses on counterterrorism challenges facing Greece. Our interview is with Vassilios Kikilias, who served as Greece’s Minister of Public Order and Citizen Protection in 2014 during which time he oversaw the country’s intelligence and police services. Ioannis Mantzikos outlines how the country has become a gateway for foreign fighters traveling back and forth from Syria creating potential terrorist threats inside Greece as well as the rest of Europe.

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Cover: French police officers take part in a mock attack drill outside the Grand Stade stadium in Decines, near Lyon, France, ahead of the UEFA Euro 2016 championships. (Reuters)

Protecting Euro 2016 and the Rio Olympics: Lessons Learned from London 2012

By Richard Walton

The upcoming summer of sport brings unprecedented and unique security challenges. In the wake of Islamic State attacks in Paris and Brussels, the terrorist threat to the UEFA Euro 2016 football (soccer) tournament is more acute than for any international sporting event in history. Although the threat from Islamist terrorism is much less acute for the Rio Olympics and Paralympics, any Olympic Games is a potential terrorist target, especially in an age of increasingly globalized terror. The British experience developing and implementing a security plan to protect the 2012 London Olympics and Paralympics provides useful lessons for protecting large, international sporting events from terrorist attacks.

The UEFA Euro 2016 football tournament, which kicks off June 10 at the Stade de France in Paris, is one of the biggest sporting events in the world. Over the course of a month, 24 European countries will play 51 matches at 10 venues around France with 150 million television viewers expected to tune in to each live match.¹ In the wake of the Islamic State's terrorist attack on France's capital and national stadium last November and its continued capability and intent to strike France, the terrorist threat to the tournament is more acute than for any other international sporting event in history.^a While the threat from Islamist terrorism to the Rio Olympics, which begins August 5, is nowhere near as acute, Brazilian authorities will need to remain vigilant about a range of security threats and plan for a wide range of scenarios.

This article draws on my experience developing and implementing a security plan to protect the 2012 London Olympics and

Paralympics, the United Kingdom's largest-ever policing operation, in order to outline the security challenges facing France and Brazil this summer and to offer lessons learned.

Global sporting events provide a perfect target for terrorist groups and the ultimate opportunity for a stunning and symbolic terrorist attack. The Olympic Games, with its mass appeal and global audience, is particularly attractive as an opportunity for political statements, to include extreme violence such as terrorism.² With billions watching and the world's media assembled, modern technology enables terrifying images to be broadcast across the world in seconds. Grand spectacles such as these showcase the values that al-Qa`ida, the Islamic State, and other terrorist groups reject: world unity, democracy, religious freedom, equality, and capitalism. Opening ceremonies are a particularly attractive target for a terrorist group. At least one-third of the flags carried at the Rio Olympics, for example, will represent countries that have contributed to the U.S.-led military coalition against the Islamic State.

Sporting events of all kinds have long been targeted by terrorist groups. During the 1972 Olympics in Munich, a Palestinian terrorist group took members of the Israeli national team hostage, eventually killing 11 athletes and coaches as well as a police officer.³ In the decades that followed, sporting events were repeatedly in the cross-hairs of terrorist groups. Between 1972 and 2004 there were 168 terrorist attacks linked to sports.⁴ The Atlanta Olympic Games in 1996 were disrupted by a bomb detonated at a music concert at Centennial Olympic Park in an attack that was instigated by a former U.S. Army soldier.⁵ Olympic representatives were again targeted in 2006 when gunmen stormed an Olympic committee meeting in Baghdad and kidnapped 30 individuals.⁶

Football and cricket events have also been targeted. Hours before Real Madrid's 2002 Champions League semifinal match against its rival Barcelona, a car bomb left by the Batasuna Basque separatist group^b exploded close to Bernabeu Stadium in Spain's capital, injuring 17 people.⁷ Pakistan has had two significant terrorist attacks linked to cricket. The first occurred in 2002 when 14 people, including 11 French naval engineers, were killed in a suicide bombing outside the Karachi hotel where the New Zealand cricket team was staying. The second took place in 2009 when the Sri Lankan cricket team's bus was attacked by the terrorist group Lashkar-e-Jhangvi en route to a match against Pakistan.⁸

The Threat to Euro 2016

The Euro 2016 tournament comes at a difficult time for France, still recovering from a series of deadly attacks across the country that, in the past two years, have killed 147 people and seriously injured hundreds more. France continues to support the coalition's air cam-

^a On May 31, the U.S. State Department issued a travel alert warning Americans that Euro 2016 "stadiums, fan zones, and unaffiliated entertainment venues broadcasting the tournaments in France and across Europe represent potential targets for terrorists." U.S. State Department Travel Alert, May 31, 2016.

Richard Walton headed the Counter Terrorism Command (SO15) at the London Metropolitan Police between 2011 and 2016. He was Head of Counter Terrorism for London during the Queen's Diamond Jubilee and London Olympic and Paralympic Games in 2012, the United Kingdom's largest peacetime policing challenge. He is currently the director of Counter Terrorism Global Ltd, a senior associate fellow at the Royal United Services Institute (RUSI), and a counterterrorism consultant for CBS News.

^b Batasuna was banned as a political party in August 2002. Its terrorist wing is known as ETA.

paign over Syria and Iraq, and its president, Francois Hollande, has declared on more than one occasion that his country is at war with the Islamic State.

France was singled out in a *fatwa* delivered in September 2014 by Abu Mohammad al-Adnani, the Islamic State's official spokesperson and the man responsible for its international terrorist operations in Europe.⁹ French intelligence agencies found it impossible to prevent the attacks that followed. Their challenges were exacerbated by porous borders across the European free travel area (the Schengen Area) where terrorists and weapons moved across countries unhindered by border checks.

In the lead-up to Euro 2016 the head of the French domestic intelligence agency, Direction Générale de la Sécurité Intérieure (DGSI), Patrick Calvar, described the threat to France in stark terms: "Clearly, France is the most threatened country ... we know that Daesh [the Islamic State] is planning new attacks." He added that whereas "the attacks of last November were carried out by suicide bombers and Kalashnikov-wielding gunmen to maximize the number of victims, we risk being confronted by a new form of attack: a terrorist campaign characterized by the placing of explosive devices in places where there are large crowds and repeating this type of action to create a climate of panic."¹⁰ Last month France extended its state of emergency from the November Paris attacks through Euro 2016. This national posture gives authorities a range of powers, including the ability to place individuals who are deemed a security threat under house arrest.¹¹

Not only does France remain in the cross-hairs of the Islamic State, but the group has already shown a high level of intent and capability to target international football matches in the country, as was illustrated on November 13, 2015, when three Islamic State

suicide bombers blew themselves up outside the Stade de France during an international friendly between France and Germany. Only one person was killed outside the stadium, but seven were seriously injured. Many more could have been killed if the attacks had been timed for when the 75,000 fans were arriving or leaving the venue or if the attackers had been able to gain entry to the stadium.¹²

With the eyes of hundreds of millions of television viewers focused on France, Euro 2016 is an even more attractive target for the Islamic State because the group has been particularly keen to garner maximum international media coverage to amplify terror and fear. Then there is the revenge factor, which may make Euro 2016 an irresistible target; several countries taking part in the tournament have been targeting the so-called caliphate with airstrikes, including France, Russia, the United Kingdom, and Belgium.

Investigators were not therefore surprised when Mohamed Abrini, the so-called "man in the hat" at Brussels airport, told Belgian interrogators that Euro 2016 was the target of the Islamic State cell that carried out the Paris and Brussels attacks. These claims are still being assessed, but Belgian authorities believe that when key members of the cell were arrested, the remaining terrorist operatives changed their plans and attacked Brussels airport and a metro station.¹³

It is important to note that the Islamic State will be keenly aware that any attack anywhere in France by its operatives or followers during Euro 2016 will get global, mass media coverage. It does not have to attack stadiums to achieve this windfall; it can attack fan zones or other so-called soft targets not directly associated with football and still be seen as having attacked the tournament. It should also be noted that because of its recent successful attack on



Stade de France in Paris following the November 2015 attacks (AP)

Paris, the Islamic State has been able to sow fear ahead of the tournament simply through rhetoric and threats. This will contribute to inevitable security scares during Euro 2016.

Al-Adnani ratcheted up threats in an audiotape released in May calling for Islamic State fighters and followers to intensify their efforts to hit the West during the month of Ramadan, which starts three days before Euro 2016 and coincides almost exactly with the tournament.¹⁴ Last year the Islamic State had told its followers they would receive 10 times the heavenly rewards for carrying out attacks during the Islamic holy month.¹⁵

The Paris and Brussels attacks, which were carried out by a mostly Franco-Belgian Islamic State terrorist cell, clearly demonstrated the group's capability to launch an attack in France during Euro 2016. As many as 9,000 Europeans have traveled to join jihadist groups in Syria and Iraq, with as many as 1,500 now assessed to have returned to European soil.¹⁶ According to the DGSI, over 2,000 French nationals and residents are on the radar screen of French domestic intelligence for their links to jihadist networks in Syria and Iraq, with over 600 believed to be currently residing in the two countries.¹⁷

As DGSI chief Calvar recently noted, al-Qa`ida and its affiliates in Syria, Yemen, and North Africa still pose a danger to France. It is possible that al-Qa`ida's network will try to organize an attack during Euro 2016 to steal the Islamic State's thunder. A significant number of French recruits have joined al-Qa`ida affiliate Jabhat al Nusra in Syria. Al-Qa`ida in the Arabian Peninsula (AQAP) trained at least one of the brothers who attacked Charlie Hebdo in January 2015, and al-Qa`ida in the Islamic Maghreb (AQIM) has intensified its attacks on Western nationals in Africa.¹⁸

The Threat to Rio

In contrast to Euro 2016 and despite the seemingly obvious opportunities that the Olympic and Paralympic Games in Brazil present to terrorist groups, the threat in Rio or elsewhere in the country during the Games will most likely be assessed by intelligence agencies as low to medium, which is unlikely to change between now and the start of the event.

Demography and geography are important reasons for this. Brazil and other countries in South America do not face anywhere near as great a challenge from violent Islamist extremism as France and other European countries. In contrast to the thousands of Europeans who have traveled to join the Islamic State, only a handful of Brazilians have made the trip.¹⁹ And while many Islamic State operatives have been able to sneak back into Europe over land and sea, Brazil is separated from the theater by thousands of miles of ocean. That said, there are rising concerns that the numbers of Islamist extremists are growing in Latin America. Earlier this month, Admiral Kurt Tidd, commander of U.S. Southern Command, stated that the Islamic State had attracted between 100 and 150 recruits from Latin America, a small number of whom had attempted to

return home.²⁰

Unlike France, Brazil itself is not a priority target for the Islamic State. Brazilian officials have generally avoided commenting on the coalition against the Islamic State. One exception was in June 2015 when Defense Minister Jaques Wagner welcomed military cooperation with Iraq, including the provision of logistical support and training to Iraqi forces fighting the Islamic State.²¹

One of the terrorist risks that Brazilian officials fear most is that of a lone actor in contact with terrorist networks in Syria and incited through encrypted social media to undertake a terrorist attack during the Olympic Games. Brazil's counterterrorism chief, Luiz Alberto Sallaberry, stated in April that there had been a rise in the number of Brazilian nationals suspected of having sympathy for the Islamic State. He also pointed to a tweet posted last November by Maxine Hauchard, a French national featured in Islamic State execution videos, that threatened, "Brazil, you are our next target."²² Covert intelligence coverage is unlikely to intercept such a conspiracy, which is why community intelligence-gathering is so critical. An individual such as this is more likely to be detected by an alert social worker, teacher, or mental health care professional. Still, the difficulties in launching an attack during the Rio Olympics will not stop the Islamic State from using its propaganda before and during the Games to instill fear.

As well as being vigilant to the threat from the Islamic State and al-Qa`ida, Brazilian security officials will need to be alert to the terrorist wing of Hezbollah, which has a track record of launching attacks on Israeli and Jewish interests in South America, including the bombing of the Israeli embassy in Buenos Aires in 1992, which killed 23, and the bombing of the Asociación Mutual Israelita Argentina, the country's largest Jewish organization, in 1994, killing 85.²³

Brazil should also think more broadly about terrorist threats from a number of leftist militant groups operating in neighboring countries in South America, which may see the Rio Olympics as a rare opportunity to get global coverage for their cause. One group of concern is the Paraguay People's Army (EPP), a Marxist rebel group responsible for a rising number of attacks in northern Paraguay, including hostage-taking of Westerners.²⁴ Another potential threat might be breakaway factions of the Revolutionary Armed Forces of Columbia (FARC) displeased with its ongoing peace talks with Colombia's government.²⁵

How We Secured the London Games

Four years ago, as the London Olympic and Paralympic Games beckoned, al-Qa`ida was the most prominent terrorist threat to the world. The U.S. drone attacks had significantly degraded its leadership in the Federally Administered Tribal Area (FATA) region of northwest Pakistan, but the group still had the capability and intent to respond and carry out complex terrorist attacks.

The Islamic State in Iraq (ISI), the forerunner to the Islamic State, was becoming more assertive and ambitious, but it was not the global terrorist organization that the Islamic State is today. Syria was on the brink of civil war, but the 'Caliphate' had not been

c According to the DGSI, at least 400 of those currently in Syria and Iraq are believed to be male and old enough to fight. More than 200 French residents are in transit from France to Syria and Iraq and more than 800 have an intent to travel, according to DGSI. And almost 250 are back in France, according to the agency. Audition de M. Patrick Calvar, directeur général de la sécurité intérieure, Commission de la Défense Nationale et Des Forces Armées, Assemblée Nationale, May 10, 2016; Jean-Charles Brisard tweet on official DGSI figures from May 10, 2016.

d FARC's tight control over its rank-and-file membership has resulted in little opposition thus far to the group's decision to pursue peace talks. Steve Salisbury, "Where is the Columbian Peace Process Headed," Peace Insider, February 23, 2016.

claimed or declared. ISI's focus was on securing land and fighting its enemies in Iraq.

The London Olympics were just over a year away when I was appointed the head of Counter Terrorism Command (SO15) at the London Metropolitan Police, and I had no higher priority than working with the key stakeholders to develop a security plan to protect the Games. At the heart of our effort was thinking through every conceivable attack scenario and implementing security plans to prevent or respond to them.

A hundred days before the start of the Games, preparations intensified to deal with the many and varied threats and risks associated with major, global sporting events. It was a nervous time for police, intelligence agency professionals, and the government. Successful counterterrorism is ultimately only measured by the absence of a terrorist incident. Our security efforts extended far beyond the Olympic venues. An attack anywhere in the United Kingdom during the course of the Games would be viewed as attack on the Olympics.

We were running multiple terrorist investigations in the United Kingdom and internationally, mindful that any one of them could implicate a plot to attack the Games. Investigations focused particularly on home-grown, British extremists who were expressing clear intent to carry out terrorist attacks in the United Kingdom at that time, individuals who rejected British values and who supported the global jihad narrative.

Research by police and intelligence agency analysts showed that approximately 40 percent of the several thousand Islamist extremists across the country were committing low-level criminality with offenses that included benefit fraud, disqualified driving, and even drug crimes. This presented us with an opportunity to suppress their criminal, extremist, and radicalizing behavior while simultaneously taking them on using routine police tactics. Armed with this information, I set out a strategy that was lawfully audacious, pursuing vigorously those extremists who were breaking the law, no matter how minor their offenses were. The strategy expanded our toolkit of disruptive options, using criminal as well as terrorist legislation to suppress the activities of extremists who wished to do us particular harm.

We commissioned our informants to be observant for unusual signs and activities, and we heightened the alert stakes across all our law enforcement agencies. We also enlisted the help of our 'eyes and ears,' the tens of thousands of patrolling police officers across the country who engage with communities every day.

Ahead of the Olympics we developed a tailored, social media monitoring capability, which allowed us to observe extremists' use of social media platforms to promulgate their views. Sophisticated software gave us 'sentiment analysis' across communities and enabled us to respond to and prevent planned public disorder by radical and extremist groups. This proved to be of immense value in the run up to and for the duration of the Olympics, particularly during the two months that the Olympic torch made its way through the United Kingdom. This capability was developed in just four months at a cost of GBP2 million but continues to be, in the years since, highly valuable to counterterrorism efforts in the United Kingdom. It is an example of how the Olympic Games can provide a security as well as a sporting legacy for a country.

During the days and weeks before the opening ceremony of the London Olympics, working in tandem with MI5, we responded to the intelligence we had gathered and executed a high number of

"The Counter Terrorism Command planned, tested, and exercised every conceivable threat scenario: air and maritime threats; chemical, biological, radiological, and nuclear attacks; cyber attacks; organized crime efforts; demonstrations; and riots."

search and arrest warrants, mindful to inform communities of what we were doing and why. Public confidence in our counterterrorism activities was crucial. The last thing we wanted to generate was public protest and unrest. But we judged it necessary to leave no stone unturned in our efforts to disrupt any terrorist planning.

The Counter Terrorism Command planned, tested, and exercised every conceivable threat scenario: air and maritime threats; chemical, biological, radiological, and nuclear attacks; cyber attacks on national computer systems; organized crime efforts (such as ticket fraud and ticket touting); demonstrations; and riots. Creative thinkers were on overdrive. Each threat or risk required a detailed, planned response, which often required months rather than weeks of planning as well as the prepositioning of assets. Hundreds of contingency plans were prepared. For example, we thought about and developed response protocols to hypothetical scenarios such as terrorists or activists entering the Olympic stadium on a microlight, a drone armed with explosives flying into one of the opened-roof venues, and an unidentified fast boat failing to stop for police marine units as it approached Olympic sites from the Thames.

Interagency rivalries were extinguished. The command, control, and coordination (C3) mechanisms that needed to be designed and understood by multiple civilian and military agencies as well as government ministers were a challenge but one we achieved.

We were able to set up a state-of-the art, integrated command-and-control system, which linked together multiple control rooms across London and the United Kingdom. Footage from our pre-existing extensive network of CCTV cameras as well as an array of cameras positioned at key sites gave us significant coverage, as did teams of overt and covert officers patrolling the Olympic sites and access points.

There was a "Gold" operational command-and-control center based in a warehouse in Lambeth and staffed by representatives from all police and security agencies. Additionally, a strategic control center was based at New Scotland Yard to manage the interface and coordination between all agencies. These control rooms were, in turn, linked to "Bronze" control centers at each Olympic site. We also had Covert Control centers managing counterterrorism surveillance teams deployed against targets and a separate control room managing our reactive police resources that were on standby in case there was any incident: these included specialist teams of counterterrorism officers stationed in vehicles around London and ready to respond to any terrorist attack. Bomb disposal units were strategically positioned at key locations. The military and intelligence agencies also had their own control rooms linked to ours under a single command-and-control protocol. Securing the Games was the United Kingdom's largest-ever peacetime policing

challenge.

To coordinate all our efforts every morning during the Olympics, ministers chaired a daily security coordination meeting that was similar to the government's "Cobra" meetings.^e Joining up all of these nodes required significant investment in high-end systems. Just as with our development of social media warning systems, it provided an Olympic legacy to our counterterrorism capabilities, the benefits of which are still being felt today. Ahead of the Olympics we also invested heavily in relationship-building with our counterparts around the world as there is no more global event than the Olympics. Some of the relationships we strengthened during the Olympics have been useful in improving information-sharing in confronting the global threat from the Islamic State.

Once the Olympic Games got underway, we identified a significant number of suspicious packages and hoax bomb threats, but there were no significant security scares. Our approach during both the Olympics and Paralympics was to take no chances. We deployed mobile SO15 investigations teams to chase down every possible lead as quickly as possible. Mixed reactive teams of experienced counterterrorism officers provided real-time response to all threats, leads, and intelligence. During the Olympics, investigators reached any location within minutes to assess and extinguish any potential threat.

A linchpin of our security plan was to secure and lock down the venues themselves. As with all other aspects of our security preparations, decades of dealing with sophisticated IRA terrorism had made our British counterterrorism models for major sporting events the best in the world. Our lockdown-security approach involved sweeping every inch of venues days and weeks before events began. Once secure, access to venues was then strictly limited through the deployment of high-end search regimes such as those used at airports, including search arches (walkthrough, security metal detectors). The Olympic village was also subject to a fingertip search before the Games began and access was strictly controlled thereafter by screening all entering individuals for weapons and explosives. The lockdown strategy was supplemented by a concerted drive to root out any prospective pass-holder for any venue who may pose a threat to the event. The smuggling of a laptop bomb onboard a passenger aircraft in Somalia in February was a reminder that it is vital that potential insider threats are identified and dealt with early.²⁴

Lessons Learned from London 2012

In preparing for any major sporting event, it is essential that security professionals take an 'all threats, all risks' approach to planning. Failure to do this can result in unforeseen risks derailing events where too much focus is restricted to known threats. Public protest at the Athens Olympics in 2004 almost jeopardized the opening ceremony, and the Zika virus in Brazil is far more likely to damage the success of the Games this summer than terrorism.

Security planning should explore every possible risk scenario and design mitigation measures to prevent negative effects and to minimize impact. Testing and exercising the response to every foreseeable risk scenario prevents security planners from becoming

myopic. It is vital too that planners make the distinction between threats that can be assessed by understanding the capability and intent of the threat and then risks that are defined as possibilities and opportunities that can be measured in terms of mathematical probability.

In France, Brazil, and other countries hosting major sporting events in the future, intelligence-sharing between intelligence agencies and police forces within a country is critically important. Terrorism is both a threat to national security (the remit of intelligence agencies) and a crime and threat to public safety (the remit of police forces). Also important is responding quickly to intelligence coming in from overseas countries. The lesson we learned from London 2012 was to trust the intelligence. While information-sharing can be enhanced during a major sporting event, there are no quick fixes to the issue of intelligence silos. In the United Kingdom in response to the threat from the IRA and then al-Qa`ida, it has been a 25-year project to integrate the work of our police and intelligence services to tackle terrorist threats.

It would also be a mistake to treat Euro 2016 or the Olympics as purely host-city sporting occasions. The vulnerable underbelly of these events is outside of the host cities in venues and stadiums, transport hubs, and other crowded places where police are not familiar with high levels of security. An attack anywhere in France during Euro 2016 is an attack on the event itself. Only a comprehensive national safety and security strategy will prevent such attacks from occurring and keep the national security infrastructure focused on threats and risks across the state.

Heading into Euro 2016 there is particular concern that fan zones, where large groups of fans will watch the football matches on Jumbotrons, could be targeted. One of these fan zones under the Eiffel Tower has the capacity for 90,000 people. About seven million supporters attended fan zones in the host cities during the Euro 2012 championships in Ukraine and Poland. French authorities are planning to put these areas under video surveillance, conduct explosive sweeps each day, use metal detectors and pat downs, and prohibit large bags inside.²⁵

At any big sporting event there will inevitably be areas in which crowds gather that cannot be completely secured. For example, getting 80,000 fans into a football stadium will always involve queues. But there are several strategies that can be employed to mitigate the threat, such as those we used at London 2012, including placing CCTV cameras at all access points to stadiums, flooding zones with covert officers and overt police, deploying specialist search dogs, and placing ANPR (automatic number plate recognition) around all access roads.

During Euro 2016, France is likely to continue to rely on a heavy military presence. A portion of the 10,000 soldiers already positioned at sensitive sites will be redeployed to protect the Euro 2016 tournament alongside 77,000 police, gendarmes, and riot-control officers as well as 13,000 private security guards, all to protect the estimated 2.5 million people who will watch the 51 scheduled football matches in person.²⁶ France has also declared the stadiums no-fly zones and has pre-positioned anti-drone technology.²⁷ Brazil is planning to deploy around 85,000 security personnel for the Games, including the police organization National Force for Public Security, double the number used in London 2012.²⁸

But delivering safety and security effectively is not about sheer volume of military, police, or civilian security guards presence. We learned from the 2012 Olympics that it is better to invest in intel-

^e Cobra or "Cabinet Office briefing room A" are meetings convened to discuss high-priority issues cutting across various U.K. government departments. They have frequently been held at times of national emergency.

ligence-gathering capabilities and command-and-control systems than relying on swamping the streets with uniformed staff.

The lesson from the London Olympics was that security is best achieved by gathering good intelligence, then analyzing and acting upon it quickly, supplemented by both a visible and invisible police presence on the ground. Intelligence analysis needs to be supported by a multitude of modern surveillance tools linked to one command-and-control system. These technologies include advanced CCTV, ANPR systems, movement analysis of known suspects, and bulk data searching of flight and other manifests alongside additional covert surveillance methodologies.

Major event security is most effective when it combines highly technical systems with covert intelligence capabilities under an integrated command-and-control framework. This approach reduces the need for too visible of a uniformed presence as much of this provision is invisible at the event itself. The result is that the public are actually less fearful but better protected.

Contrary to popular belief, armed soldiers and armed police do not prevent terrorism or necessarily reassure the public. Our largely unarmed police presence at the London Olympics created a relaxed atmosphere, and much of our armed policing response capabilities were not visible to those participating or watching the games. While Britain's armed forces were on standby during the London Olympics, aside from assisting with our search regimes, we always kept them in reserve.

Politicians and security chiefs should be mindful of the fine balance between encouraging vigilance in the public mindset and scaring the population, which plays into the terrorists' hand. Against a backdrop of a severe global terrorist threat, leaders in France and Brazil will need to be robust and calm. And if there is an attack they will have to do everything possible to ensure it does not derail the entire tournament. In London we operated under the maxim that "the Games must go on." In the event of an attack our plan was to create a more visible security presence to reassure the public and then do everything possible to get the city back to normal as quickly as possible.

Delivering security in times of high threat has never been more challenging, but I remain optimistic that both Euro 2016 in France and the Olympic and Paralympic Games in Rio will be great sporting occasions. Moving forward, the worry may be that because of the increasingly global nature of the terrorist threat, only rich countries will have the resources to hold secure, international sporting events, and so it is all the more important that Brazil succeeds.

Pierre de Coubertin, the French founder of the International Olympic Committee, once said that "holding the Olympic Games means evoking history." France and Brazil will need to ensure that the history made this summer is sporting history alone and not any other kind. **CTC**

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Belgian Radical Networks and the Road to the Brussels Attacks

By Pieter Van Ostaeyen

As the Paris and Brussels attacks made clear, the high number of Belgian foreign fighters in Syria and Iraq has severe national security implications for Belgium and neighboring European countries. The emergence of three overlapping radical networks in Antwerp and Brussels and their early recruitment of fighters for the Syrian jihad is the key reason why Belgium has more foreign fighters per capita than any other Western nation.

Belgium is at the epicenter of the Islamic State's efforts to attack Europe. With at least 451 foreign fighters who have traveled or attempted to travel to Syria and Iraq,^a Belgium has the highest number of foreign fighters per capita¹ of all Western countries. This article looks at how the steady flow of foreign fighters from Belgium over the course of the last five years culminated in the attacks on Paris on November 13, 2015, and Brussels on March 22, 2016. It draws on hundreds of pages of Belgian court documents and a database of Belgian foreign fighters maintained by the author to focus on three overlapping recruitment networks that have been active in sending Belgian residents to the battlefields of Syria and Iraq: the Sharia4Belgium network, the Resto Tawhid network of Jean-Louis

Denis, and the so-called Zerkani network.

The reason Belgium has seen the largest per capita flow of foreign fighters to Syria and Iraq is not because radicalization is higher in Belgium than other northern European countries. There are no metrics to suggest Belgian exceptionalism in this regard. And it cannot simply be explained by failures of Belgian authorities, police, and security services to prevent travel. Instead, arguably the key reason behind the elevated travel flows from Belgium is that clusters of likeminded militants emerged in Antwerp and Brussels and were drawn into the orbit of radical preachers who encouraged and facilitated their travel to fight jihad early on in the Syrian civil war. This laid the groundwork for increasing numbers to join them on the frontlines.^b As several Belgian counterterrorism officials have pointed out, Belgian foreign fighters got a "head start."^c

These early travel flows were, in turn, partly explained by the fact that Belgium has a sizeable population of North African Arab Muslims, which allowed the uprising against the Assad regime to resonate strongly on the streets of Brussels, and made travel to the conflict easier than for residents of a city with a high concentration of south Asian immigrants, for example, Birmingham in the United Kingdom.

Historical Roots

Belgium has been grappling with the nexus of foreign fighter recruitment and terrorism for more than a generation. In the 1990s Belgium was a transit country for recruits of Islamist terrorist groups like GIA and the GICM.² The al-Qa'ida hit team that assassinated Ahmad Shah Massoud, the head of the Northern Alliance, two days before 9/11 were residents of the Brussels district of Molenbeek.³ Malika el-Aroud, the Belgian-Moroccan widow of one of the suicide bombers, was sentenced in May 2010 together with her

a The term "Belgian foreign fighters" refers to Belgian nationals and non-Belgian residents of Belgium who have traveled to or tried to travel to join jihadist groups overseas. The official estimate includes 269 still in Syria or Iraq (or elsewhere), six individuals on their way to the warzone, 117 who have returned, and 59 who tried to leave but were stopped. See Pieter Van Ostaeyen, "New Official Numbers on Belgian fighters in Syria and Iraq," pietervanostaeyen.wordpress.com, February 22, 2016. According to a database of Belgian foreign fighters maintained by the author and Guy Van Vlierden, the high-end estimate for the number of Belgian nationals and residents who have traveled to Syria and Iraq is 626. See also Jim Brusden, "Belgium: Journeys to Jihad," *Financial Times*, June 3, 2016. One of the reasons the official count is likely lower is that it is based on those for whom there was enough evidence to bring criminal charges. See Paul Cruickshank, "View from the CT Foxhole: An Interview with Alain Grignard," *CTC Sentinel* 8:8 (2015). Another reason the database maintained by the author should be considered a high-end estimate is because only fragmentary information is available for some of the foreign fighters such as only a *kunya*, meaning some individuals may be counted more than once.

b It could be argued that the British foreign fighter phenomenon linked to al-Qa'ida in Pakistan in the 1990s and 2000s was similarly linked to clusters of extremists associated with radical figures in the United Kingdom such as Abu Hamza al Masri, Omar Bakri Mohammed, and Abu Qatada. See Peter Bergen and Paul Cruickshank, "Clerical Error: The Dangers of Tolerance," *New Republic*, August 8, 2005. American academic Marc Sageman has written about how informal radical groups or "bunches of guys" formed in such places as the fringes of the al-Quds mosque in Hamburg, the M-30 mosque in Madrid, the Islamic Cultural Center in Milan, and Finsbury Park in London, and contributed a significant proportion of the Westerners who became involved in Islamist terrorism in the years leading up to and following 9/11. See Marc Sageman, *Understanding Terrorist Networks* (Philadelphia, Pennsylvania: University of Pennsylvania Press, 2004), p. 114, and Marc Sageman, *Leaderless Jihad: Terror Networks in the Twenty-First Century*, University of Pennsylvania Press (Philadelphia, Pennsylvania: University of Pennsylvania Press, 2008), p. 86.

c Belgian counterterrorism officials have cited the comparatively early departure of Belgian militants to fight in Syria as one of the key reasons so many have traveled. For example, see Nic Robertson and Paul Cruickshank, "Belgium on edge after year of terror," CNN, December 30, 2015.

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new husband, Moez Garsallaoui, for recruiting young Belgian and French extremists to join al-Qa`ida.^{4d} Her website, Minbar SOS, was one of the most visited forums by Francophone jihadis across the Western world.⁵ One individual that el-Aroud championed was Muriel Degauque, a Catholic convert from Charleroi who became the first-ever Western, female suicide bomber in Iraq after she and her husband, Issam Goris, traveled from Belgium to Iraq.⁶ Another key figure in Belgian extremist circles in the 1990s and 2000s was el-Aroud's mentor Bassam al-Ayachi, a French cleric of Syrian descent whose Centre Islamique Belge in Brussels was linked to several terrorism cases. His son was one of the first Belgians to die in Syria,^e and some of the so-called Zerkani network were influenced by his teachings.⁷

The First Wave: Sharia4Belgium

Many of the Belgians who were part of the first wave to travel to fight in Syria were linked to Sharia4Belgium, a Flemish extremist group founded by Fouad Belkacem, an Antwerp-based radical with a track record of petty crime.⁸ His group was modeled on Islam4UK, led by radical cleric Anjem Choudary and had launched throughout its existence a series of publicity stunts to attract attention from the media and potential supporters.^f Though Belkacem was dismissed out of hand by some, in March 2012 the head of Belgium's Sûreté de l'État (domestic intelligence), Alain Winants, warned that Belkacem was radicalizing individuals to violence and Belgian security services needed to track those in his network. At the time, Winants estimated there were about 1,000 jihadi sympathizers in Belgium of which 100 were hardcore supporters and of which about a dozen had traveled to fight jihad overseas.⁹ Although Sharia4Belgium claimed to have disbanded in October 2012 it continued proselytizing as wave after wave of recruits left for Syria.

To date, 75 of the Belgian foreign fighters who have traveled to Syria and Iraq were directly linked to Sharia4Belgium, while six others at first were linked to Sharia4Belgium but later ended up in the network of Jean-Louis Denis.¹⁰ The arrival of Sharia4Belgium members in Syria early on in the civil war had a snowball effect on recruitment. As members arrived they encouraged their friends back in Belgium via social media to join.

The first Belgians who left for Syria joined a variety of jihadist outfits, often small and independent groups that, in time, affiliated with the Islamic State. One of the most attractive groups was Majlis Shura al-Mujahidin, a group led by brothers Firas and Amr al-Absi. One of the first Belgian fighters to join the group was former Sharia4Belgium member Houssien Elouassaki (also known as Abu Fallujah), who subsequently became a key point of contact for

"The first Belgians who left for Syria joined a variety of jihadist outfits, often small and independent groups that, in time, affiliated with the Islamic State."

other Belgians joining the group. Elouassaki himself had no jihadist contacts whatsoever in Syria before he left and wandered the Turkish-Syrian border for days before hitchhiking his way through to the country.

Elouassaki became the emir of a brigade of foreign fighters within Majlis Shura al-Mujahidin, which grew to include Belgian, Dutch, and French fighters. Contacting a Belgian who already was accepted as a *mujahid* in Syria was far easier than trying to get into groups like the al-Qa`ida affiliate Jabhat al-Nusra, which strictly vetted recruits. Most of the brigade's members later joined the Islamic State, while Elouassaki and a few other Belgians and Dutch joined Jabhat al-Nusra.^{11g}

Resto du Tawhid – The Jean-Louis Denis Network

The growth of Sharia4Belgium was mirrored by the rise of several smaller networks. One of these was Resto du Tawhid, an organization led by Belgian convert Jean-Louis Denis (also known as Le Soumis), 41, a former farm laborer turned convert turned extremist rabble rouser. At least 50 of Belgium's foreign fighters have some sort of connection to Jean-Louis Denis, according to a database maintained by this author. Illustrating the overlap between Belgian radical networks, a significant number of these also had connections to Sharia4Belgium (six individuals) and the so-called Zerkani network (11 individuals).^{12h} Resto du Tawhid was active around the Gare du Nord Brussels railway station, distributing food aid to needy Muslims. However, by April 2013 it was clear that Resto du Tawhid was not just about charity. When two 16-year-old boys from Fernand Blum High School in Schaerbeek left for jihad in Syria, Jean-Louis Denis was arrested and questioned for recruiting them. He said defiantly that the men were following their religious duty.¹³

While Sharia4Belgium focused its recruitment efforts in Antwerp and the Flemish areas between Antwerp and Brussels, including Vilvoorde, they also had recruits in the capital, including in Molenbeek, a majority Francophone district in Brussels with a large population of North African immigrants. Denis mainly operated in the Gare du Nord area but steadily became more involved in Sharia4Belgium, at one point becoming the leader of its Brussels branch.¹⁴ The trial of Denis and his recruits made clear that there was not mere spillover between these groups. Not only did Denis

d Before he was killed in a drone strike in Pakistan's tribal areas, Garsallaoui encouraged Toulouse terrorist shooter Mohammed Merah to launch attacks in France. Paul Cruickshank, "Taking Tea with a Terrorist," CNN, October 17, 2012; Eric Pelletier, "Moez Garsallaoui, 'mentor' présumé de Merah, aurait été tué," *L'Express*, October 18, 2012.

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f Examples are abundant. A lecture by Dutch poet Benno Barnard at the University of Antwerp was disrupted. Marie-Rose Morel, a politician of Vlaams-Belang, was damned to hell. In Molenbeek and Antwerp there was frequent rioting linked to the group. See Pieter Van Ostaeyen, "Van Kruistochten tot Kalifaat," Pelckmans, 2015, pp. 114-117.

g A significant amount of the detail on Elouassaki comes from messages the author exchanged with Dutch and Belgium Jabhat al-Nusra members via direct messaging on Twitter during the months of September, October, and November 2015. Contacts included, among others, Levantenaar, Abu Saeed al-Hallabi/al-Hollandi, Polderjihadi, and Abu Jandal at-Tawzani.

h Jean-Louis Denis received a 10-year prison sentence for his recruitment activities in a trial that concluded in January 2016. Nine others who traveled were given prison sentences as well. For more on the case, see Jim Brunsden, "Belgium: Journeys to Jihad," *Financial Times*, June 3, 2016.



Belgian police and soldiers stand in front of blown-out windows at Brussels airport following the March 22, 2016, attacks. (AP)

connect Sharia4Belgium and Resto du Tawhid, he also provided a key connection between Sharia4Belgium operating mainly in Flanders and the so-called Zerkani network based in and around the Molenbeek district of Brussels.¹⁵

The Zerkani Network

By far the most dangerous network to have surfaced in Belgium was a group of Brussels-based radicals centered around Khalid Zerkani, a 42-year-old, Moroccan-born resident of Brussels who targeted youngsters in and around Molenbeek. Nicknamed Papa Noel (Santa Claus) because of his cash handouts, Zerkani led his network of criminals as a gang. If Zerkani was the father figure of the group, then Fatima Aberkan, 55, a close associate of Malika el-Aroud,ⁱ who Belgian officials labeled a “passionaria of jihad,” was its mother figure, inciting her children and their circle to fight jihad in Syria and raise funds.^{16,j} While Zerkani played a leading role in

proselytizing, a review of hundreds of pages of court documents by the author reveals that the young men in these social networks also encouraged each other to travel to Syria.^k

Zerkani’s recruits were constantly on the move in Brussels, robbing tourists and passers-by. Between 2012 and 2014 at least 60 Belgium-based extremists linked to the Zerkani network traveled to Syria and Iraq,¹⁷ with Zerkani facilitating their travel and paying some of them up to €4,000 from the proceeds of his gang’s thefts. Investigators established that he provided recruits with fake documentation and put them in touch with individuals who could smuggle them across the Turkish-Syrian border.¹⁸

The most infamous of Zerkani’s recruits was Abdelhamid Abaaoud, the coordinator of the November 13 attacks in Paris.¹⁹ Others who were part of the network and who subsequently became involved in European terror plots include the Belgian Islamic State operative Chakib Akrouh, who blew himself up during a French commando raid in Saint Denis several days after the Paris attacks; Najim Laachraoui, the cell’s bomb maker; and Reda Kriket, a French Islamic State recruit who was arrested in Paris with explosives and weapons several days after the Brussels attacks.²⁰

i Aberkan’s brother Abdelhouaid was an associate of el-Aroud’s husband, Abdessater Dahmane, who killed Massoud and was convicted for helping get him to Afghanistan. Another man tried in relation to the Massoud assassination was Abderrahmane Ameuroud who was shot in the leg and arrested at a train stop in Brussels in March because he was suspected of involvement in a terror plot being organized by Zerkani acolyte Reda Kriket. Guy Van Vlierden, “The Zerkani Network: Belgium’s Most Dangerous Jihadist Group,” Jamestown Foundation, April 12, 2016.

j She was the actual mother of three of the Belgian foreign fighters tried in the Zerkani trial: Abdelmouneim Lachiri, Yassine Lachiri, and Soufiane Ailou. During the time she spent in Syria she sent messages to her circle in Belgium encouraging them to travel to Syria to fight jihad. See verdict in first Zerkani trial, “Jugement, Tribunal de première instance Francophone de Bruxelles,” July 29, 2015, pp. 144-155.

k For example, the family members of Zerkani acolyte Chakib Akrouh believe Zerkani’s right-hand man Gelel Attar, 27, was the one who persuaded Akrouh to travel to Syria. Attar housed Zerkani at his Molenbeek residence, where he organized meetings encouraging young men to travel to wage jihad, before traveling with Akrouh to Syria in January 2013. Akrouh was part of the 10-man Islamic State team that attacked Paris last November. He blew himself up during a French commando raid on a Saint Denis terrorist safe house several days after the attacks. Verdict in first Zerkani trial, pp. 65-69.

Abaaoud had connections to many of the Islamic State-linked plots and attacks against Europe over the past two years. The French Islamic State recruit Mehdi Nemmouche spoke on the phone with Abaaoud for almost half an hour a few months before he attacked the Jewish Museum of Belgium in Brussels in May 2014, while Abaaoud also coordinated the terror plot that was thwarted in Verviers in Belgium in mid-January 2015.²¹ He is also suspected of playing a role in a plot by Sid Ahmed Ghaml to attack a Paris church in April 2014 and of links to Ayoub el Khazzani, a Moroccan extremist who tried to carry out an attack onboard a Thalys train in August 2015.²²

The Zerkani network had a very different profile from Sharia4Belgium. Whereas Fouad Belkacem openly preached in the streets and Sharia4Belgium even had a YouTube channel and website, the group around Zerkani operated clandestinely. Whereas the Zerkani network operated more like a criminal gang and drew in a lot of unemployed people from the Brussels Canal Zone and a significant number with criminal backgrounds but little or no Islamic background, Sharia4Belgium had recruits from Antwerp, Vilvoorde, and Brussels of various backgrounds, including from all layers of the Muslim population, even people with higher education who had been inspired by their message.

While Sharia4Belgium recruits have tended to be very amateurish, Zerkani's recruits' history of petty criminality and gangsterism naturally equipped them with better tradecraft in operating clandestinely, helping them travel to and from Syria with ease. Those subsequently plotting attacks were able to draw on contacts from criminal milieus to source weapons as well as the chemicals needed for bomb-building in addition to cars and safe houses.

Despite these differences in the networks, Belgian extremist circles were a small world. For example, Paris attack bomb maker Najim Laachraoui, who was recruited to fight in Syria by the Zerkani network, attended a protest at the Myanmar Embassy in Brussels in July 2012 in the company of Jean-Louis Denis and Sharia4Belgium member Houssien Elouassaki.²³

Abaaoud and Laachraoui both left Belgium for Syria in early 2013 and joined the ranks of Majlis Shura al-Mujahidin, which at that point was led solely by Amr al-Absi whose Katibat al-Muhajirin¹ was led by Sharia4Belgium member Elouassaki.²⁴ When al-Absi decided to join the Islamic State, both Abaaoud and Laachraoui followed his lead.²⁵

The Syrian Terror Factory

It appears that in the summer of 2013 Abaaoud joined the ranks of Katibat al-Battar al-Libiyya, a Libyan branch of the Islamic State that was founded in December 2012.²⁶ Some described the group as an elite brigade of the Islamic State, counting upwards of 700 and maybe even 1,500 members.²⁷ Most of the members were, as the group's name suggests, of Libyan descent, some of them with a jihadist pedigree going back to the Iraqi insurgency and even Afghanistan. There was, however, an important branch of French-speaking fighters counting a significant amount of Belgian, French, and Tunisian fighters.

In Syria, French and Belgian fighters had a strong connection



Abdelhamid Abaaoud (right) with the two Islamic State operatives killed during a Belgian commando raid in Verviers (Dabiq)

to each other because of linguistic and national links. This brought together one-time members of Sharia4Belgium, Resto du Tawhid, and the Zerkani network. For example, Mohamed Soulayman, a Belgian foreign fighter recruited by the Zerkani network, used the same cell phone while in Syria as Houssien Elouassaki, the Majlis Shura al-Mujahidin commander, and other former Sharia4Belgium members.²⁸

The Belgian contingent in Syria maintained contact with fighters who had returned to Europe as well as their social circle and families back home. It was via these networks that new fighters were recruited and that weapons, ammunition, money, and fake identity papers were transferred across Europe.²⁹^m The case of Soufiane Alilou,³⁰ the son of Fatima Aberkan, the so-called "passionaria of jihad," demonstrated just how easy it was to move back and forth to Syria. Alilou spent a month in Syria between October 19, 2012, and November 16, 2012. He then left Belgium a second time with two new recruits on February 12, 2013, and came back to Belgium with one of them on February 25, 2013. A month later he left Belgium again but was stopped at the Turkish border and sent back to Belgium. The Belgian police ignored him on arrival in Belgium, and two weeks later he escorted two more recruits to Syria, escorting his mother back to Belgium in May on his return home. Extraordinarily, he made a fourth successful trip to Syria on November 9, 2013. When Alilou returned to Belgium on July 25, 2014, he was finally arrested.³¹

In the summer of 2014 a Twitter account under the name "the lover of martyrs," closely affiliated with Katibat al-Battar, published a list of killed fighters in the ranks of the Libyan branch. Among the purportedly deceased Belgian fighters with links to the Zerkani network was Abu 'Umar al-Belgiki, a.k.a. Abdelhamid Abaaoud.³² By faking his own death Abaaoud was able to go off the grid for several months, giving himself the opportunity to prepare for a terror plot in Belgium that the following January was thwarted by a Belgian commando raid in Verviers.ⁿ

^m Between the Paris and Brussels attacks these networks also helped hide surviving members of the Islamic State terror cell, for example Salah Abdeslam.

ⁿ After the raid and the killing of Abaaoud's accomplices, the same Twitter account published pictures of both deceased men on January 26, 2015, linking them to the Libyan Islamic State brigade.

¹ This should not be confused with Katibat al-Muhajirin wa'l-Ansar, the group led by Umar as-Shishani, who later became a high-ranking official in the Islamic State.

It is possible that operatives within Katibat al-Battar encouraged Abaaoud to set in motion a campaign of terrorism against Europe. The Paris attacks resembled the group's mass-casualty 'Inghimasi' operations.³³ As Aymenn Jawad Al-Tamimi has noted, the group was tasked with organizing plots that "involved foreign fighters, sleeper cells in Europe that were connected with an operative inside of Syria and Iraq, usually in a lower to midlevel position."³⁴ It is also noteworthy that Paris attacker Bilal Hadfi was in contact with several members of Katibat al-Battar via Facebook.³⁵

Target: Europe

Since the fall of 2014 Zerkani's street gangsters, hardened by their experience fighting with the Islamic State in Syria, have been at the heart of the Islamic State's campaign of terrorism in Europe. This was set in motion after senior Islamic State operative Abu Muhammad al-'Adnani, the Islamic State's spokesman, declared war on the West in a September 22, 2014, audiotape.³⁶

The first time Europe was confronted with a clear attempt to follow up on these orders came on January 15, 2015, when Belgian police and security forces raided a house in Verviers. Phone taps had revealed that the men hiding inside were probably planning an attack in France or Belgium.³⁷ During the raid, two Belgian foreign fighters, later named as Sofiane Amghar and Khalid Ben Larbi,³⁸ were killed while a third was arrested. The plotters had all been in touch with Abaaoud who had traveled to Athens to coordinate the plot.³⁹

The November 13, 2015, Paris attacks were coordinated, planned, and launched from Belgium. After slipping back into Europe cell members went underground in three safe houses in Bel-

gium, including a bomb factory in Brussels. While Abaaoud led the attack team that carried out the Paris attacks on the ground, Belgian investigators believe the overall leader of the cell was Mohammed Belkaid, an Algerian Islamic State operative who had previously resided in Sweden.⁴⁰

Belkaid was killed on March 15 as he provided covering fire for several cell members, including Salah Abdeslam, a childhood friend of Abaaoud, to escape a safe house in the Forest neighborhood of Brussels.⁴¹ When Abdeslam was located and arrested a few days later, the remaining members of the cell, including Najim Laachraoui and Khalid and Ibrahim Bakraoui (two brothers with a history of armed robberies) fearing arrest, accelerated an attack on the Brussels airport and metro, killing 32.⁴²

Conclusion

Three overlapping recruitment networks in Belgium—Sharia-4Belgium, Resto du Tawhid, and the Zerkani network—have been responsible for the recruitment of a significant number of foreign fighters from Belgium. Court proceedings have established these networks have ties to at the very least 174 Belgian foreign fighters who traveled to Syria and Iraq.⁴³

These numbers illustrate the recruitment power of charismatic preachers and the significant problems created by clusters of radicalized, likeminded individuals. As American academic Marc Sageman has argued, in-group radicalization within social networks has been key to radicalization to violence.⁴⁴ To prevent future Brussels and Paris attackers, Western governments should focus on preventing the growth of similar radical networks in the rest of Europe. Belgium and its European neighbors will be living with their legacy for some time to come. **CTC**

- o Inghimasiyun are highly trained, heavily armed fighters carrying pistols, light machine guns, and explosive belts. They aim to kill as many adversaries or civilian victims before they themselves are killed in battle by enemy fire or by running out of bullets and self-detonaing themselves amidst a crowd of enemies/targets. These kind of attacks have been used frequently on the battlefield in Syria and Iraq and resemble the attacks in Tunisia on the Bardo Museum in Tunis and on the beach in Sousse.
- p Besides an entire arsenal of heavy weapons, including Kalashnikovs and hundreds of bullets, there were also Belgian police uniforms found in the safe-house. One of their targets was reportedly a high-ranking police officer, with the intention of beheading him on camera. "Wat we weten over de antiterreuroperatie in Verviers," *Het Laatste Nieuws*, January 16, 2015.

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r These were the cases in which biographical information indicated a link. As this information is fragmentary on a significant number of those in the database, the number of Belgian foreign fighters with links to the three networks is likely to be significantly higher. This database is maintained by the author and Guy Van Vlierden.

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A View from the CT Foxhole: Vassilios Kikilias, Greece's Former Minister of Public Order and Citizen Protection

By Paul Cruickshank and Charles Kim

Vassilios Kikilias, a member of the Greek parliament, served as Greece's Minister of Public Order and Citizen Protection between June 2014 and January 2015 during which time he oversaw Greece's police and intelligence agencies. He is currently the Special Coordinator of Immigration Policy for the New Democracy political party and a member of the parliament's Standing Committee on Public Administration, Public Order and Justice. Kikilias also works as an orthopedic surgeon in Athens and was a member of the Greek national basketball team between 1990 and 2004.

CTC: You assumed the position of Minister of Public Order and Citizen Protection on June 10, 2014. A few days later, the Islamic State declared a caliphate in Syria and Iraq. How did that change things for you?

Kikilias: It was clear that Greece, because of its geography, had become a transit country for foreign fighters traveling to Syria and that fighters would try to travel back in the opposite direction. Greece has 16,500 miles of maritime borders and 8,000 islands, which is not easy to guard. So I realized we needed to work with our European colleagues because Greek borders are European borders. From the start I stressed to senior Greek police and intelligence officials the importance of exchanging information with our allies and agencies such as Europol and Interpol.

The other challenge was trying to maintain the effectiveness of Greek police, security, and intelligence agencies during an unprecedented economic crisis. We have 55,000 individuals working in Greek police and a significant number working in our intelligence services, and it was critical to inspire them to do their job because, quite frankly, I did not have the financial tools to adequately pay them.

Another thing I tried to do was to anticipate rather than react to threats. One example of this was following a trip to meet with senior U.S. intelligence officials in 2014. I stated at the European security meeting in Milan that it was essential for us to have access to passenger name record (PNR) data for our flights much like the United States. Unfortunately, at the time, many European nations felt that it would be a blow to civil liberties. It was only after the attacks in Paris and Brussels that the European Union finally adopted PNR.

CTC: How has Greece dealt with the migrant crisis?

Kikilias: During the six months that I oversaw Greek security and police agencies until there was a change in government with the election of the Syriza party, I believe our government took the appropriate measures to limit freedom of movement of the irregular migrants streaming into Greece, while adhering to the Geneva Convention for Refugees. We made a distinction between refugees, who were processed according to international protocols, and illegal immigrants, who were sent to detention centers and returned to their

country of origin. When the left-wing political party Syriza came to power in January 2015, they had a significantly different approach toward border security, national security, and collaboration with our international allies. In my view this sent a message to illegal human-smuggling operations to expand their business. Between when the Syrian conflict began in 2011 and 2014, only 80,000 migrants passed through Greece. Since then more than a million have come through our borders. While the worsening civil war in Syria contributed significantly to the rise in the number trying to enter Europe, in my view, the crisis was aggravated by the initial policies of the Syriza-led government.

CTC: Do you believe that the government has now come to terms with the migrant crisis?

Kikilias: Yes, they were obliged to change their policies under European pressure. The European Union understood the difficulty of controlling the high volume of refugees moving through our borders, and in response they worked to close the northern corridor that runs from Thessaloniki to Skopje in FYROM to Rijeka in Croatia.^a Together with the E.U.-Turkey agreement on migrants in March 2016 and NATO ships stepping up patrols and assisting the Greek and Turkish coast guard in the eastern part of the Aegean Sea, it has significantly ameliorated the situation. With the northern corridor now effectively shut, 55,000 refugees and illegal immigrants are stuck in northern Greece and the Attica area around Athens. This has created its own set of problems, but it has sent a message that it's pointless to pay people smugglers to cross the Aegean Sea as you will not be able to reach northern Europe through Greece.

CTC: What is the concern about potential radicalization of irregular migrants who are currently living in the transient camps in Greece?

Kikilias: Despair and hopelessness can change the psychology of a person, so there is, of course, concern about radicalization. The illegal camp that has emerged in Calais is a case in point because it has created significant issues for France's internal security. Similar camps have sprouted up in Greece. I have had serious concerns about knowledge gaps that have emerged in recent months about the people in these camps, including the illegal camp at Idomeni in northern Greece, which swelled to over 10,000 people before it

^a In March 2016 several European countries situated along a corridor that stretched through the Balkans and had been used by irregular migrants to travel to northern Europe began to restrict severely the admission of irregular migrants trying to transit northward.

was shut down in late May.^b As well as providing necessary food and shelter, mechanisms need to be in place for Greek police and intelligence services to screen those inside the camps.

CTC: As has been well documented, several of the Paris attackers posed as Syrian refugees when they entered the European Union through the Greek island of Leros. Three days before the Paris attacks in November 2015, there was an unannounced on-site inspection by European Union officials at six Greek border sites. Their conclusion was there were "serious deficiencies in the carrying out of external border control by Greece, in particular due to the lack of appropriate identification and registration of irregular migrants at the islands, of sufficient staff, and of sufficient equipment for verifying identity documents." How can things be improved?

Kikilias: I was not in office then, but it was chaos back in the summer and autumn of 2015. You have to understand, we're talking about small communities of 10,000 to 20,000 residents on the Greek islands in the northern Aegean close to Turkey to which many migrants were flocking. Suddenly it was D-Day, and they were dealing with thousands of migrants coming in per day on plastic boats that were getting ripped apart, resulting in people drowning. The Greek government had two courses of action: keep all the migrants on these islands with no food or shelter, which would have been an absolute disaster, or to try to relocate them. But because of the urgent need for relocation it was very difficult to check their documents.

To deal with these issues, we need modern communication systems to be able to screen people who pass through Greek islands and land borders. We need to be able to put that information into a database and compare it with the intelligence services of other countries. We need to deepen our cooperation with Western intelligence agencies. We need to be able to communicate quickly at moments of crisis. We need to be able to identify illegal immigrants who pose a security risk. We need proper training and specialized personnel from the European Union to help our border security agency, Greek police, and intelligence services.

We need E.U. help to fund the necessary modernizations. Greece is in its seventh year of recession and in a very difficult financial position. The financial crisis and migrant crisis were a perfect storm. European Union countries need to share the burden by accepting the relocation of refugees, and they also need to develop a unified strategy to deport illegal immigrants. Europe has economic agreements with developing countries, including Nigeria and Cameroon, but some of these countries will not re-accept the deported illegal immigrants. While there are some bilateral agreements, including an agreement between the United Kingdom and Pakistan for sending illegal Pakistani immigrants back home, this needs to be done at the E.U. level.

One positive development has been the proposed introduction of the European Border and Coast Guard Agency, which could help



Kikilias meets with Greek police officers in 2014.

protect Greece's borders.^c This is something that we should move toward, provided it is done in such a way that respects Greece's sovereignty.

Another point worth making is that recent Islamic State plots and attacks in Europe have tended to involve European citizens. One of the problems we've faced is that only if there is an arrest warrant or Interpol red-flag warning will we in Greece be able to apprehend a European citizen suspected by one of our European partners of ties to terrorist activity. So it's a difficult task because if you can't make arrests, you have to monitor these suspects. That is why it is essential that we share information across Europe and work closely together. The Brussels attacks demonstrated we have a long way to go.

CTC: How can the international community ultimately resolve the migrant issue?

Kikilias: It can only be resolved if there is a resolution to the conflict in Syria and Iraq. This isn't an easy task. Some intelligence services predict it will last another 10 years, but the West needs to concentrate all its effort on this. It will also be necessary to convince Turkey to maintain its agreement on migration with the European Union. Given the current political climate in Turkey and the departure of Prime Minister Ahmet Davutoglu, there are some questions about the future of this agreement. If President Erdogan decides to change their policy and allow the freedom of movement for the irregular migrants to pass into Greece through the Aegean Sea, there is a high probability of the migrant crisis returning. We could also see surging flows if there are further security breakdowns elsewhere in the Middle East, for example Egypt.

CTC: What was the nature of your security cooperation with the United States while you were in office, and how do you see the relationship evolving in the future?

^b In late May 2016 Greek police evacuated irregular migrants from the Idomeni camp and moved them to other facilities in Greece. See Costas Kantouris, "Greek police evacuate hundreds from Idomeni refugee camp," Associated Press, May 24, 2016.

^c In December 2015 the European Commission proposed the creation of a new European border and coast guard agency to "include monitoring and supervisory responsibilities, as well as the capacity to intervene in urgent situations either at the request of a Member State or when a Member State is unable or unwilling to act." The Commission proposed the new agency "will be able to draw on a pool of resources which are placed at its disposal by the Member States and are available for immediate deployment." See European Commission - Fact Sheet European Agenda on Migration: Securing Europe's External Borders," December 15, 2015.

Kikilias: When I was overseeing Greek security agencies, we had a very positive relationship with the U.S. government, which understood the strategic need to assist Greece. The partnership grew from our common interests and our ability to have honest conversations and deliver on agreements. We built the relationship through joint operations and sharing intelligence. Such cooperation is the most important component of combating the security threats we face. Terrorism is attacking democracy's weaknesses, and we have to mobilize democracy's strengths by working together to anticipate problems rather than to react to them. Intelligence is the most precious commodity for governments, and it is essential to share it rather than keeping it in silos.

CTC: In recent years the Greek government and security services have been focused on 'leftist' and 'anarchist' terrorism. Should the focus now be on Islamist terrorism?

Kikilias: For Greece, domestic terrorism from leftist/anarchist groups has been the cause of a lot of bloodshed, so it has been appropriate for us to focus on that. But the rise of ISIS [Islamic State] and Islamist terrorism has changed the threat picture for the whole of Europe, and it's important to bring in new expertise to build up capacity in the intelligence services in order to understand the threat and how to deal with it.

CTC: What is the concern about home-grown radicalization in Greece and the threat of an attack by Islamist terrorists inside Greece?

Kikilias: Home-grown radicalization is not a major problem in Greece, although we are not immune to some of the currents across Europe. We have a significant, moderate, Muslim minority that is well-integrated throughout Greece. Greece has not been a target of Islamist terrorist plots, but it cannot have any sense of complacency. We are well aware there are American, British, Russian, and other international interests in Greece that Islamist terrorists might seek to target. The Islamic State is more focused on attacking countries like the U.K., France, and Germany, and it is important for Greece to do everything possible to share intelligence on threats with our partners in this regard.

Five years ago, no one would have predicted the scale of these attacks in the heart of Europe. Many of the attackers were not



Vassilios Kikilias

first-generation immigrants but second- or third-generation that many assumed would have integrated into Western culture. While Greece has recognized the importance of integrating minorities, we have to learn from lessons we've seen in Europe.

CTC: You were a famous basketball player in Greece that represented your country at the national level. What were some of the lessons you took from your basketball career in overseeing Greece's police and intelligence agencies?

Kikilias: I was not the best basketball player as far as my individual skill level, but I was the best teammate. That helped win championships. Michael Jordan was a phenomenal basketball player, but he wouldn't have been able to win championships without the help of his teammates. That is something I had to do in office. I had to find the right team and build the relationships with the right people both inside the Greek government as well as with other allied nations. In basketball, we would study and analyze our opponents prior to the match to understand who they are, the tools they use, and what their goals are. This is the same strategy we can apply to our fight against ISIS. During my visit with the U.S. intelligence agencies, I was most impressed with the younger analysts who spent countless hours conducting deep analyses on various global issues. This culture and desire is something I would like to see replicated in Greece. **CTC**

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The Greek Gateway to Jihad

By Ioannis Mantzikos

Greece has become a crossroads for extremists trying to reach Syria and Iraq from Europe and for fighters returning home. The fact that several members of the Paris and Brussels attack cell transited through the Greek island of Leros illustrates the Islamic State's ability to exploit refugee flows in order to move fighters into Europe. Although Greece's migrant crisis has eased recently, a persistent economic crisis has left the Greek government with limited resources and capability for border security and counterterrorism efforts. At a time of growing radicalization and Islamist extremist activity within Greece's own borders, this has led to concern that the Islamic State may take advantage by launching attacks against Western or Russian tourists or interests on Greek soil.

On October 3, 2015, a boat originating from nearby Turkey carrying almost 200 refugees landed on the Greek Cycladic island of Leros.¹ Among them were two Iraqi Islamic State recruits carrying Syrian passports with fake names.² They were among the 400-500 migrants arriving on the island by sea every day last fall³ and among about one million irregular migrants⁴ who have come to Europe via the Aegean sea, many on rickety boats that trawl the Turkish coast seeking out the desperate.^a Local officials processed the duo as refugees, and then the two men booked themselves on a ferry to Athens before transiting through the Balkans on a route trodden by tens of thousands of other refugees. Just over one month later they blew themselves up at the French national soccer stadium

a Since the start of 2014, the International Organization for Migration (IOM) calculates that almost 1.4 million migrants and refugees have crossed the Mediterranean and entered Europe via one of five E.U. coastal borders: Italy, Greece, Spain, Cyprus, and Malta. Through March 16 of this year, IOM counted over 997,000 seaborne arrivals to Greece alone. According to the Greek authorities, 47 percent of newly arrived migrants are from Syria, 27 percent from Afghanistan, 17 percent from Iraq, and 3 percent each from Iran and Pakistan. See "Mediterranean Migrant Arrivals in 2016 Approach 150,000; Deaths Reach 455," IOM, March 11, 2016.

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in the worst terrorist attack in France's modern history.

They were not the only suspected terrorists who landed in Leros that day. Two others posing as refugees in the very same boat were arrested in Austria in the wake of the Paris attacks under suspicion of having ties to the plotters.⁵ In addition, Leros was the arrival point in September for Swedish Islamic State operative Osama Krayem who was traveling with an alleged co-conspirator in the Paris and Brussels terror cell.⁶ There were also eyewitness sightings of Paris attack ringleader Abdelhamid Abaaoud in Leros in the late summer. He subsequently claimed to have exploited refugee flows to enter Europe,⁷ but it is not clear if Leros was his entry point.⁸

The Islamic State's successful infiltration of operatives into Europe through Greece cemented concerns that the country had become the soft underbelly of Europe. An unannounced, on-site evaluation by E.U. inspectors of six Greek sea and land border sites between November 10 and November 13, 2015, (ironically, the day of the Paris attacks) revealed "serious deficiencies in the carrying out of external border control by Greece, in particular due to the lack of appropriate identification and registration of irregular migrants at the islands, of sufficient staff, and of sufficient equipment for verifying identity documents."⁹ b

After reaching a crisis point, the migrant pressures on Greece eased dramatically^c after March 2016 due to an agreement between the European Union and Turkey to deport irregular migrants back to Turkey¹⁰ and the move by several countries in the Balkans along the so-called northern refugee corridor to restrict severely the admission of refugees trying to transit northward.¹¹ But there is concern that the numbers coming through Greece may surge again if the deal with Turkey collapses.

Transit Route

An early example of a terrorist crossing through Greece was Ibrahim Boudina, a French Islamic State operative who was detained on January 3, 2014, after Greek police pulled over a taxi in which he

b E.U. Migration and Home Affairs Commissioner Dimitris Avramopoulos stated in January, "we know that in the meantime Greece has started undertaking efforts towards rectifying and complying with the Schengen rules. Substantial improvements are needed to ensure the proper reception, registration, relocation or return of migrants in order to bring Schengen functioning back to normal, without internal border controls. This is our ultimate common goal." "Commission discusses draft Schengen Evaluation Report on Greece," European Commission Press Release, Brussels, January 27, 2016.

c According to the IOM, 3,360 migrants and refugees landed on the Greek islands in April 2016 as compared to 26,971 the previous month—an 88 percent drop. The figures for May were lower still with just 1,465 migrants and refugees arriving on Greek shores by sea, fewer than were arriving daily in January and February. See "Dramatic' drop in migrant arrivals to Greece: officials," Deutsche Welle, May 13, 2016; "IOM: Noted drop of maritime migrants reaching Greece," Xinhua, June 4, 2016.

was traveling in the town of Orestiada, four miles from the Turkish border. Greek police discovered a USB drive with instructions for how to make homemade bombs “in the name of Allah,” but let him go because, just as with Fabien Clain, there was no warrant for his arrest, despite French intelligence services being aware of his travel to Syria. One month later French police arrested him near Cannes, thwarting his alleged plans to carry out a bomb attack with three soda cans filled with the explosive TATP.¹²

Another case was Fabien Clain, one of the alleged masterminds of the Paris attacks, who reportedly transited through Greece on his way to Syria in the early months of 2015. Clain drove his family from the northwestern port of Igoumenitsa to the Turkish border in the northeast of the country, making stops in both Thessaloniki and Kavala. French authorities tipped off their Greek counterparts of his presence in the country, but there was no warrant for his arrest so he was not detained.^{13 d}

A significant number have transited from Balkan countries such as Kosovo and Albania and then used Greece as a gateway to jihad.^e A case in point was Mirsad Bektasevic, a Bosnian-Swede who was arrested along with another man in Evros, Greece, on January 28, 2016.¹⁴ Bektasevic was previously implicated in a plot to attack the British Embassy in Sarajevo.^f A file collected by Greek authorities showed that both suspects came to Athens via Sweden on January 22, 2016, for two days before continuing on their journey to exit European territory by the end January 2016.¹⁵ Authorities were alerted of their arrival at Athens airport by a tipoff from a European intelligence service. From there, both men took a KTEL bus to Thessaloniki and arrived at Alexandroupolis on a second bus. The ‘green light’ for their arrest came when they booked a ticket for Tychero, a town near the Turkish border.¹⁶

Some have used Greece as a way station to transport weapons into Syria. In February 2016 Greek police arrested three alleged British jihadis of Kurdish descent in Evros in northeastern Greece who may have been seeking to cross into Turkey.¹⁷ Police discovered a significant number of weapons in their possession and over 200,000 rounds of ammunition.¹⁸

In order to facilitate travel flows, militants have set up logistical, recruitment, and financial cells in Greece, and some members of Greece’s large immigrant community, particularly in Athens, have provided housing to the transiting jihadis and helped them evade security services.¹⁹

“The terrorist arrivals in Leros last fall made clear that Greece has also been a transit point for a significant number of European extremists returning from Syria.”

Islamic State operatives have used Greece to coordinate attack plots in Europe. The Paris attacks ringleader Abdelhamid Abaaoud communicated by a cell phone from an Athens apartment with several members of an Islamic State cell in Belgium, plotting a major gun and bomb attack. Plans for how to attack airports were reportedly discovered on a computer in his residence on Asteropolis Road in the heart of the capital.²⁰ The plot was thwarted in a gun battle in Verviers, Belgium, in January 2015. An Algerian associate of Abaaoud in Athens was extradited to Belgium and charged with being part of the conspiracy.²¹

The Threat to Greece

Greece does not have as significant a problem with radicalization as some other European countries, which means the threat from homegrown Islamist terrorism is significantly lower than in France or the United Kingdom. Greece hosts a Muslim minority, which is a vestige of the Ottoman Empire, but also an expanding Islamic population from Arab countries and South Asia who have arrived in significant numbers as illegal immigrants. Estimates of the centuries-old^g Muslim minority^h—which is mostly located in western Thrace, a region bordering Bulgaria and Turkey—range from 98,000 to 140,000 (between 0.9 percent and 1.2 percent of Greece’s 11 million population but as much as a quarter of the population of western Thrace). Estimates for immigrant Muslim community numbers between 200,000 and 300,000 (between 1.9 percent and 2.7 percent) with the majority living in the Athens region. Most Albanian immigrants to Greece are Muslims, though most are secular-leaning.²² While there are low rates of radicalization among the very longstanding Muslim minority in western Thrace, most of whom are secular-leaning,ⁱ there is concern about radicalization among immigrant communities.

One concern is the lack of registered mosques in areas where there are large immigrant Muslim populations like Athens, creating

d Fabien Clain had previously served jail time for recruiting for al-Qa`ida in Iraq. As well as claiming the Paris attacks on behalf of the Islamic State, he was also suspected of encouraging a plot by a Parisian student to attack a church in the city, which was thwarted in April 2015. Paul Cruickshank and Tim Lister, “Immense challenges remain despite arrests of terror suspects,” CNN, April 8, 2016.

e The Islamic State has produced several propaganda videos featuring Kosovars appealing to their countrymen to join them, and the Kosovo authorities believe some 200 individuals have left to wage jihad in Iraq and Syria. See Tim Lister and Ioannis Mantzikos, “Add this to Greece’s list of problems: It’s an emerging hub for terrorists,” CNN, January 26, 2015.

f On October 19, 2005, Bektasevic had been arrested after a police raid on his aunt’s home in Sarajevo, Bosnia. In the house, police had found a belt with explosives, 18 kilograms of explosives, and a videotape with directions as to how to create a makeshift bomb. See Rodolfo Toe, “Sarajevo Embassy Attack Plotter Held in Greece,” *Balkan Insight*, February 2, 2016, and Maja Zuvela, “Three jailed in Bosnia for planning suicide attack,” Reuters, January 10, 2007.

g The first Muslims settled in this region after arriving from Anatolia in 1363 during an attempted conquest of Europe by the Ottoman Turks. In 1923 Greece and Turkey agreed to a mass exchange of populations and consequently Greeks resettled from Asia Minor to mainland Greece and vice versa. The Muslim minority in Thrace is mirrored by a Greek-Orthodox minority in Istanbul. See, for example, Ioannis Michaletos, “Islam in Greece: Country Outlook,” Radical Islam Monitor in Southeast Europe, August 5, 2011.

h It is estimated that 45 percent of Muslims in Western Thrace are of Turkish descent, 40 percent of Slavic descent, and 15 percent of “Pomak” descent. Ioannis Michaletos, “Islam in Greece: Country Outlook,” Radical Islam Monitor in Southeast Europe, August 5, 2011.

i Muslim preachers in the area of Komotini in the Evros region of northern Greece have repeatedly denounced radical extremism and have been supportive of all counterterrorism measures. “Thraki Muftis denounce ISIS,” To Vima, October 1, 2014.

a potential informational black hole for authorities. Data from the Muslim Association of Greece shows that there are currently three officially registered mosques in Athens and about 20-25 unofficial mosques serving the city's estimated 130,000-200,000 Muslims.²³ The presence of informal, unregistered mosques has complicated the task of law enforcement officials in investigating suspected foreign fighter cases.²⁴

Some Greek Muslims have tried to travel to Syria via Komotini, a western Thrace town near the border with Bulgaria and Turkey. One example was a 40-year-old seller of ecclesiastical paraphernalia in Komotini²⁵ who, according to police sources, operated a pro-jihadist Facebook profile.²⁶

In another example of extremist activity within Greece, an investigation into Rawti Shax, an Islamic State linked-organization headed by an Iraqi Kurdish cleric based in Norway, revealed the group was trying to recruit from Greece. In November 2015 European authorities arrested 15 people in four European countries, breaking up what officials called a terrorist network that sought to overthrow the Kurdish government in northern Iraq and recruit militants to fight in Iraq and Syria.²⁷ According to Greek police, an Algerian national and a Pakistani who were residents of Norway and involved in the network spent time in Greece for recruitment purposes.²⁸ An analysis of internet chatroom activity also indicated the group had supporters in Greece.²⁹

With thousands of Syrian refugees stranded in Greece after Balkan countries took measures to shut off transit routes for irregular migrants in March, there is concern refugee camps could become a breeding ground for extremism.³⁰ Before it was shut down last month, the Idomeni camp in northern Greece had swelled to over 10,000 migrants. Greek police have since moved the refugees to other facilities in Greece.³¹

There is concern that because of the jihadist transit through the country, the Islamic State may try to set up sleeper cells in Greece and that these cells might take advantage of limited Greek counterterrorism capabilities to launch attacks against Western or Russian visitors or interests inside the country. As many as 27.5 million tourists are expected to visit Greece in 2016, almost triple the country's population.³² As a member of NATO Greece itself is also in the Islamic State's crosshairs, even if the country is not likely a priority target. In the wake of the Paris attacks the Islamic State released a video threatening reprisals in 60 countries that it considered allied against it, including Greece.³³

Limited Counterterrorism Capabilities

The rise of Islamist radicalization and the transit of European foreign fighters through Greece has been in danger of overwhelming security services such as the Greek National Security Agency (EYP), which was established to confront left-wing terrorist groups like the

Revolutionary Organization 17 November. Most of its staff comes from various bodies such as the police (drug enforcement), coast guard, and military intelligence.³⁴ Greek ministers have criticized EYP's leadership,^j and a lack of funding and training has made it extremely reliant on help from other Western intelligence services.³⁵ Greek police also lack capabilities to track jihadis. When Belgian authorities requested Greek authorities arrest Abaaoud in Athens in early 2015, Belgian officials accused Greek police of failing to move quickly enough.³⁶

There have been some positive developments, including a recent, dramatic reduction in the number of migrants entering Greece, and E.U. officials have proposed creating a European border security force and coast guard to help Greece.³⁷ In addition, the newly established European Migrant Smuggling Center (EMSC) has stationed officers on the islands of Chios, Samos, Lesvos, and Leros where refugee registration centers are in operation, as well as in Piraeus Port, bolstering Greece's current border-security capabilities. EMSC agents are checking suspicious individuals against Europol's databases.³⁸

Conclusion

Although the migrant crisis has eased, a sustained economic crisis has left the Greek government with limited resources and capacity for border security and counterterrorism efforts at a time of growing radicalization and militant activity within Greece's own borders. If thousands of migrant seekers remained trapped in military camps in Greece for a lengthy period there is a possibility some will be radicalized.³⁹ Rising anti-immigrant activism by militants from Greece's far-right Golden Dawn party risks adding fuel to the fire.

There is concern that the Islamic State may take advantage by launching attacks against Western or Russian interests on Greek soil. Moreover, there is a sense of complacency that Greece will not be struck because it is not playing any role in the coalition against the Islamic State, which is partly due to its financial restraints but also due to the fact that the governing Syriza party hails from an anti-war rhetoric movement.⁴⁰ It may only be an attack in Greece itself that leads to a wake-up call. **CTC**

j Former Minister of Interior Yiannis Panousis said he was aware that jihadis were traveling via Greece and questioned EYP's ability. Minister of Defence Panos Kammenos called for EYP Head Mr. Yiannis Roubatis to resign. See Constantinos Zoulas and Yiannis Souliotis, Panousis claims SYRIZA officials told him to free detained suspects, *Kathimerini*, November 15, 2015; "Kammenos: Roubatis should have resigned," *Huffington Post* Greece, November 22, 2015.

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How Terrorists Use Encryption

By Robert Graham

As powerful encryption increasingly becomes embedded in electronic devices and online messaging apps, Islamist terrorists are exploiting the technology to communicate securely and store information. Legislative efforts to help law enforcement agencies wrestle with the phenomenon of “going dark” will never lead to a return to the status quo ante, however. With the code underlying end-to-end encryption now widely available, unbreakable encryption is here to stay. However, the picture is not wholly bleak. While end-to-end encryption itself often cannot be broken, intelligence agencies have been able to hack the software on the ends and take advantage of users’ mistakes.

Counterterrorism officials have grown increasingly concerned about terrorist groups using encryption in order to communicate securely. As encryption increasingly becomes a part of electronic devices and online messaging apps, a range of criminal actors including Islamist terrorists are exploiting the technology to communicate and store information, thus avoiding detection and incrimination, a phenomenon law enforcement officials refer to as “going dark.”

Despite a vociferous public debate on both sides of the Atlantic that has pitted government agencies against tech companies, civil liberties advocates, and even senior figures in the national security establishment who have argued that creation of “backdoors” for law enforcement agencies to retrieve communications would do more harm than good, there remains widespread confusion about how encryption actually works.^a

Technologists have long understood that regulatory measures stand little chance of rolling back the tide. Besides software being written in other countries (and beyond local laws), what has not been fully understood in the public debate is that the “source code”

^a For example, General Michael Hayden, the former head of the NSA and CIA, stated “America is more secure—America is more safe—with unbreakable end-to-end encryption,” arguing that the vulnerabilities created by removing unbreakable code outweighed the advantages of detecting nefarious communications. Tom Di Christopher, “US safer with fully encrypted phones: Former NSA/CIA chief,” CNBC, February 23, 2016.

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itself behind end-to-end encryption is now widely available online, which means that short of shutting down the internet, there is nothing that can be done to stop individuals, including terrorists, from creating and customizing their own encryption software.

The first part of this article provides a primer on the various forms of encryption, including end-to-end encryption, full device encryption, anonymization, and various secure communication (operational security or opsec) methods that are used on top of or instead of encryption. Part two then looks at some examples of how terrorist actors are using these methods.

Part 1: Encryption 101

End-to-End Encryption

A cell phone already uses encryption to talk to the nearest cell tower. This is because hackers could otherwise eavesdrop on radio waves to listen in on phone calls. However, after the cell tower, phone calls are not encrypted as they traverse copper wires and fiber optic cables. It is considered too hard for nefarious actors to dig up these cables and tap into them.

In a similar manner, older chat apps only encrypted messages as far as the servers, using what is known as SSL.^b That was to defeat hackers who would be able to eavesdrop on internet traffic to the servers going over the Wi-Fi at public places. But once the messages reached the servers, they were stored in an unencrypted format because at that point they were considered “safe” from hackers. Law enforcement could still obtain the messages with a court order.

Newer chat apps, instead of encrypting the messages only as far as the server, encrypt the message all the way to the other end, to the recipient’s phone. Only the recipients, with a private key, are able to decrypt the message. Service providers can still provide the “metadata” to police (who sent messages to whom), but they no longer have access to the content of the messages.

The online messaging app Telegram was one of the earliest systems to support end-to-end encryption, and terrorist groups such as the Islamic State took advantage.² These days, the feature has been added to most messaging apps, such as Signal, Wickr, and even Apple’s own iMessage. Recently, Facebook’s WhatsApp³ and Google⁴ announced they will be supporting Signal’s end-to-end encryption protocol.

^b Secure Sockets Layer (SSL) is the standard security technology that is used for creating an encrypted link between a web server and internet applications such as browsers and chat apps. This prevents anyone who is eavesdropping on the network from reading the original, unencrypted data. Only those on either end of the SSL link can read the data.

On personal computers, the software known as PGP,^c first created in the mid-1990s, reigns supreme for end-to-end encryption. It converts a message (or even entire files) into encrypted text that can be copy/pasted anywhere, such as email messages, Facebook posts, or forum posts. There is no difference between “military grade encryption” and the “consumer encryption” that is seen in PGP. That means individuals can post these encrypted messages publicly and even the NSA is unable to access them. There is a misconception that intelligence agencies like the NSA are able to crack any encryption. This is not true. Most encryption that is done correctly cannot be overcome unless the user makes a mistake.

Such end-to-end encryption relies upon something called public-key cryptography. Two mathematically related keys are created, such that a message encrypted by one key can only be decrypted by the other. This allows one key to be made public so that one’s interlocutor can use it to encrypt messages that the intended recipient can decrypt through the private-key.^d Al-Qa’ida’s Inspire magazine, for example, publishes its public-key^e so that anyone using PGP can use it to encrypt a message that only the publishers of the magazine can read.

Full Device Encryption

If an individual loses his iPhone, for example, his data should be safe from criminals.^e Only governments are likely to have the resources to crack the phone by finding some strange vulnerability. The FBI reportedly paid a private contractor close to \$1 million to unlock the iPhone of San Bernardino terrorist Syed Rizwan Farook.⁶

The reason an iPhone is secure from criminals is because of full device encryption, also full disk encryption. Not only is all of the data encrypted, it is done in a way that is combined or entangled⁷ with the hardware. Thus, the police cannot clone the encrypted data, then crack it offline using supercomputers to “brute-force” guess all possible combinations of the passcode. Instead, they effectively have to ask the phone to decrypt itself, which it will do but slowly, defeating cracking.^f

Android phones work in much the same manner. However, most manufacturers put less effort into securing their phones than Apple. Exceptions are companies like Blackphone, which explicitly took extra care to secure their devices.

“A survey of terrorist publications and details from interrogations suggest that terrorists are at least as concerned about hiding metadata as they are about encrypting communications.”

Full disk encryption is also a feature of personal computers. Microsoft Windows comes with BitLocker, Macintosh comes with FileVault, and Linux comes with LUKS. The well-known disk encryption software TrueCrypt works with all three operating systems as does a variation of PGP called PGPDisk. Some computers come with a chip called a TPM^g that can protect the password from cracking, but most owners do not use a TPM. This means that unless they use long/complex passwords, adversaries will be able to crack their passwords.

These programs can also produce volume or container files. They will exist as a normal file on the disk, like foobar.dsk. But the contents of this file will look like random gibberish. When the file is opened with the encryption software, it will appear as a disk drive (like F:) on the computer. Anything written to this virtual drive F: will, in fact, be encrypted and written to foobar.dsk.

Anonymization

In 2013, Edward Snowden released documents from the NSA⁸ revealing widespread mass surveillance, even of U.S. citizens. This surveillance did not eavesdrop on the phone calls of people in the United States but instead collected the metadata about the calls: who was calling whom and for how long. Reportedly⁹ the United States has targeted overseas terrorists with drone strikes based on this metadata. A survey of terrorist publications and details that have emerged from interrogations suggest that terrorists are at least as concerned about hiding metadata as they are about encrypting communications. But the various chat apps/services now available on the market do little to hide metadata. Servers must know the address or phone number in order to know where to forward the message.

The most common way to deal with this problem on the internet is through a service called Tor (The Onion Router).^h It passes traffic (encrypted) through multiple proxy servers around the internet controlled by different organizations, often private individuals. This makes it sometimes very difficult and at times even impossible to figure out the source of network traffic.

The process is not perfect. For example, when the FBI went after Jeremy Hammond, the perpetrator of the Anonymous Stratfor attack, they collected¹⁰ traffic on both ends. The Tor traffic coming from his home matched activity by the targeted hacker in a chat

^c PGP, or Pretty Good Privacy, was software written in the 1990s for encrypting any information, though primarily emails. A version known as GPG, or Gnu Privacy Guard, exists, which is open-source, meaning anyone can download the code and build their own apps that include this encryption standard.

^d The most common use of PGP involves the creation of two extremely large prime numbers, then multiplies them together. The original two numbers form the private-key, the multiplied result forms the public-key that anyone can know. It is secure because it is too difficult for even the most powerful supercomputer to work backward and discover the original primes from the public-key. The public-key is then posted to public-key servers so that if somebody knows the associated email address, they can find the key. Or the key can be sent directly in an email message, and the recipient can then use the public-key to encrypt messages that only the other party can decrypt.

^e This is assuming the owner is using the newer iOS 9 operating system as hackers found vulnerabilities in earlier versions.

^f The precise delay is 80 milliseconds, or 12 guesses per second. If the passcode is “1234,” it will be guessed quickly. But if the passcode uses six alphanumeric characters, it will take more than five years to guess it.

^g Trusted Platform Module stores the encryption keys in the hardware, similar to how phones store keys in their hardware. It also provides physical protection for the keys so that no one can crack open the chip to access them.

^h Tor runs on Windows, Macintosh, and Linux computers. It is mostly used with its own built-in web browser based on Firefox, but it can be used to proxy almost any internet traffic.

room. The correlation was robust enough to secure court orders.

Tor also requires great care to use. The leader of the Anonymous faction called “LulzSec” was discovered¹¹ because one time when he logged onto a chat room, he forgot to enable Tor first. This one time that he slipped up defeated the hundreds of times he did it right, revealing his internet address to police.

As the Snowden leaks revealed,¹² Tor is a double-edged sword for intelligence services. Reportedly, U.S. government agencies had a role in Tor’s development, have provided funding for it, and have used it to hide their own activities. Yet intelligence agencies spend significant resources trying to defeat it when terrorists use it.¹³

Opsec Methods

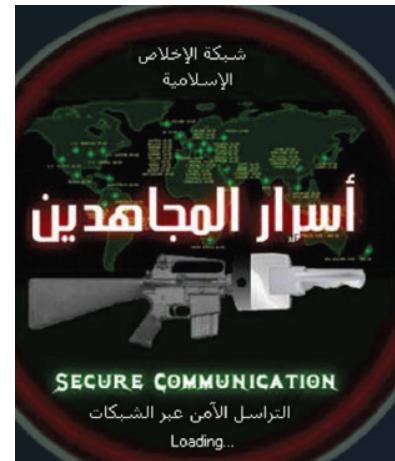
Encryption is only one way of hiding. There are alternatives. For example, the Paris terrorists congregated in safe houses in Belgium to plan their attack, and while some had downloaded messaging apps with encryption, to a significant degree they used burner phones¹⁴ to coordinate during the attack.¹ To describe this, technologists often use the word opsec, or operational security.

Most chat apps (like Telegram and Wickr) now have a feature where old messages automatically self-destruct after an hour or a day, as well as the option to manually delete messages. It means incriminating evidence disappears without any interaction by the user. For law enforcement, this can mean that when a terrorist’s phone is obtained, most of the evidence may already be gone. On desktops/laptops, there is special software, such as “Windows Washer” on Windows, for wiping the disks, designed to get rid of any remaining information. It is also a feature on web browsers, which can automatically delete browser history.

One industry leader for opsec is “Tails,” which is frequently mentioned on terrorist forums.¹⁵ It contains all the encryption tools described in this paper and more. Tails is a live flash drive, which means when a user inserts it into the computer, no trace is left on the computer. A typical computer boots Windows or Linux or macOS because the operating system is on the internal drive. When a live USB drive is inserted, however, the computer can instead boot the operating system from the external drive, ignoring whatever operating system is on the internal drive.

Tails boots the Linux operating system, which is similar to Windows or Mac OS in most ways. It is a bit clunky but easy enough to use. Most importantly, it reduces the chance that the user will make a mistake because once the USB drive is removed and the computer is shut down, there will be no accidental evidence left behind. Tails includes a normal web browser like Firefox that runs through Tor. It includes PGP and Pidgen+OTR for end-to-end encrypted email/messages. It includes LUKS (Linux Unified Key Setup) for full disk encryption of the USB drive, so that even if the user loses it, no one will be able to decrypt the lost drive.

ⁱ The three Paris attack teams kept in touch with each other by burner phones during the night of the attacks. The trio of terrorists who attacked the Bataclan music hall downloaded the Telegram encryption messaging app onto their phones several hours before the attack, but they also made unencrypted calls and text messages to co-conspirators on burner phones. Paul Cruickshank, “The inside story of the Paris and Brussels attacks,” CNN, March 30, 2016.



Mujahideen Secrets logo (*Inspire* magazine)

Part 2: How Terrorists Use Encryption

Encryption in the Age of al-Qa`ida

In the years after 9/11 U.S. intelligence intercepts helped thwart a string of al-Qa`ida plots, including the 2006 transatlantic airplane plot, a plot by al-Qa`ida-linked terrorists to bomb U.S. soldiers in Germany the following year, and the 2009 plot by Najibullah Zazi to bomb New York. Well before the 2013 Snowden revelations of NSA capabilities, the earlier NSA successes, widely reported on in the media at the time, resulted in the group increasingly moving toward encrypted communications.¹⁶

In early 2007, al-Qa`ida released an encryption tool called “Mujahedeen Secrets” (or *Asrar al Mujahideen*) and then in January 2008 issued an update to the software called “Mujahideen Secrets 2.”¹⁷ It was used in 2009 by al-Qa`ida in the Arabian Peninsula (AQAP) cleric Anwar al-Awlaki to communicate with operatives in the West,¹⁸ and *Inspire* magazine included a four-page, step-by-step tutorial on how to use it in June 2010.¹⁹ A group of German foreign fighters recruited for a plot to hit Europe the same year were instructed on how to use the software in the tribal areas of Pakistan by al-Qa`ida operative Younes al Mauretani.²⁰

While Mujahideen Secrets was described as a kind of custom encryption tool, it was just a friendly wrapper around PGP. Its developers did not write encryption code themselves; they used the code written by others. It was fully compatible with other versions of PGP and could be used to encrypt messages using keys such as those found in *Inspire* magazine. In other words, it was an end-to-end encryption tool not because the terrorists designed it that way but because they inherited the code from cryptographers. Creating original source code for encryption that actually worked would have been too difficult, but they certainly could make existing encryption easier to use. One lesson policy makers can learn from this is that the software code for encryption is out there. Attempting to regulate software or devices will not prevent terrorists from creating their own software with the encryption features they want.

Al-Awlaki placed a significant emphasis on secure communications. Between 2009 and 2010 he and Rajib Karim, a British Airways call center worker based in Newcastle, set up an elaborate system of encrypted communications to plot attacks against British and American aviation. The intricate system, outlined in a 2011 trial in which Karim was convicted of terrorism offenses, involved Karim using end-to-end encryption to send messages to his brother

in Yemen, who was in contact with al-Awlaki.

They used a multi-layered process to encrypt the messages. First, the text message was pasted into an Excel document, which used their own macros to encrypt the message. Second, the result of that encryption was copied and pasted into a Word document, then saved with Microsoft's "password protect" feature, which is unbreakable if long and complex passwords are chosen. Third, the Word document was compressed and encrypted using the RAR program, which is also unbreakable if long and complex passwords are chosen. Lastly, they uploaded to web hosting sites through a URL shortener in an attempt to anonymize the metadata.^j Police described his use of encryption as "the most sophisticated they had seen in a British terrorist case."²¹

When he was arrested, court documents show that he was calm, apparently secure in his knowledge that he did encryption right. In reality, while Western intelligence agencies were not able, as far as is known, to intercept any of his communications in real time, he made some mistakes.²²

Karim practiced good opsec by using the program "Windows Washer" and other Windows tools to keep his laptop clean of any incriminating evidence. He used full disk encryption in order to put all of his plans as well his encrypted communications with al-Awlaki on an external hard disk, separate from his laptop.²³ He used volume/container files for full disk encryption. He named the files like "Quran DVD Collection 1.rar,"²⁴ where the ".rar" extension indicated the use of a popular compression program. However, the files were in fact PGPdisk encrypted volumes. Changing the extension from ".pgd" to ".rar" failed to fool investigators because, regardless of extension, RAR files start with the string "Rar!" and PGPdisk files start with the string "PGPdMAIN." This is an example of the fallacy of security through obscurity.²⁵ Noticing the ruse, British police technicians were able to decrypt the disk volumes.^k

While PGP was installed on the computer, Karim does not appear to have used it to encrypt and decrypt messages, perhaps out of paranoia about the capabilities of Western intelligence agencies, but instead used an unorthodox and complex technique based on cipher codes and passwords stored on Excel spreadsheets. His biggest slip-up was that he had saved this spreadsheet on his computer, allowing British police over a period of several months to decipher the messages stored on his external hard drive and use them as evidence against him. The computer had not been wiped in time. Booting a separate operating system, such as the aforementioned Tails, which the Islamic State is now encouraging their operatives to use, would have prevented this mistake.²⁶

Encryption in the Age of the Islamic State

The ubiquity of encryption in commercially available messaging tools and devices has made it increasingly easy for terrorists to com-

municate securely. And it has become easier for terrorists to use the tools that already exist (Telegram, Whatsapp, Surespot, etc.) rather than build their own software like Mujahideen Secrets. The main limiting factor appears to be terrorist distrust of some of these tools based on rumors that they contain backdoors and a general paranoia about the capability of Western intelligence agencies.^l

In April the Islamic State released a 15-page guide titled "Sécurité Informatique" in its French online magazine Dar al-Islam, demonstrating the importance of secure communications for the group. It teaches how to setup Tails, connect to the Tor network to hide one's location and Internet address, create PGP keys, encrypt emails, and how to use a range of other secure communication tools.^{27m}

French police believe the Paris attackers used encryption in some of their communication, based on data collected from an abandoned Samsung phone they recovered outside the Bataclan concert hall after the attack. The Telegram app had been downloaded onto the phone seven hours before the attacks. No recovered content from the messaging app is mentioned in the French police documents, suggesting the technology allowed them to cover their tracks successfully and possibly by using the self-destruct feature within Telegram. Paris prosecutor Francois Mollins stated after the attacks that French investigators often encountered Telegram in their investigations and cannot penetrate its encryption.²⁸

In August 2015, French authorities arrested and interrogated Reda Hame, a French Islamic State recruit who had gone to Syria where, over a period of several weeks in June 2015, he received rudimentary training in Raqqa and was tasked by Paris attack team leader Abdelhamid Abaaoud with returning to France to commit a terrorist attack. Hame was instructed in a rather bizarre technique to use a TrueCrypt volume file in which full disk encryption was used as a replacement for end-to-end encryption. The system involved creating text files with messages inside the virtual disk drive, then uploading the container file to file-sharing websites.²⁹

On one hand, this technique provided good opsec. The normal method using PGP to encrypt a file means an unencrypted copy could still be left on the disk drive accidentally. By creating a file in a virtual disk drive, no other copy would exist on the system. But on the other hand, this technique is another example of the fallacy of security through obscurity. As with Rajib Karim, the obvious intent was to avoid NSA collection of email metadata by using an obscure method of uploading to file-sharing sites. However, this remains obscure only temporarily. Once Hame was caught and interrogated, his technique would have been conspicuous, making it easier for the NSA and its European counterparts to track the metadata of others using this technique.

^j For example, the Islamic State has instructed its followers not to trust Tor. "As to the question of whether the NSA can crack their code, the answer is probably yes. That's why you should never send anything personal or sensitive or that you do not want to be intercepted over Tor." Dar al-Islam issue 9, p. 38.

^k They did not say how it was done. In all likelihood, they used a brute-force password cracker that can attempt a million passwords per second. Short passwords, especially those based on dictionary words, can quickly be cracked this way. Long passwords, especially complex ones using punctuation, would be beyond even the NSA's ability to crack, with all their billion-dollar supercomputers.

It appears that Hame never actually used the technique, however. According a transcript of his interrogation he forgot the passwords and names of the websites he was supposed to use. Instead, as it appears in most cases, most of the planning of his terrorist activities was by face-to-face contact, not electronic communication.³⁰

Other Islamic State operatives resorted to a much more straightforward use of encryption. Junaid Hussain, a British Islamic State operative who had been involved in hacking before departing for Syria and was killed in a drone strike in August 2015,³¹ was a prolific user of the encryption messaging app Surespot, using it to provide Islamic State sympathizers in the United Kingdom with bomb-making tips and encouraging them to carry out attacks.³² For example, he used it to discuss targeting options with Junead Khan, a British extremist who was convicted of a plot to attack U.S. Air Force personnel in England that was thwarted in July 2015. In order to retrieve information from Khan's iPhone, British undercover offices employed an elaborate ruse to trick Khan into handing over his iPhone just before they arrested him so that they could change its password settings before it locked.³³

Hussain also communicated using encryption with one of the American Islamic State followers who opened fire outside a "Draw the Prophet Mohammed" contest in Garland, Texas, in May 2015. The morning of the attack 109 encrypted messages were exchanged between Hussain and the gunman that were impossible for the FBI to read.³⁴

According to reports, in the drone strike that killed Junaid Hussain (and fellow militant Reyaad Khan), British agents were able to find their physical location by "hacking" their end-to-end encrypted app Surespot.³⁵ Precise details are scarce, but it is unlikely that Surespot itself was hacked but merely used in the hack. Once British agents discovered their target's address (an opportunity may have been from Hussain posting it online or the phone acquired from Junead Khan, described earlier), they could send a phishing message with a link. This link could be as simple as a recording of their current internet address or as complex as a virus.

With an internet address, intelligence services could discover the unique identifier of the phone (known as the IMSI or International Mobile Subscriber Identifier). This would require intelligence services to hack into the phone company servicing the Islamic State or to utilize a paid informant on the inside. Then IMSI catchers in drones/airplanes flying overhead can be used to pinpoint the radio signals coming from the phone.

With a virus, they can do all that and more. Instead of grabbing the IMSI from the phone company, the virus can simply acquire it from the phone. Instead of planes flying overhead, the phone itself can report its GPS location on a regular basis via the internet. Intelligence services like the GCHQ and NSA have such viruses in their arsenal, known as implants, which use what is known as "Oday" exploits" to break into the phone as soon as a user taps on a link within the Surespot app.

Odays are the archetypal cyber weapon. Intelligence services can point them at a target, gain control of the computer, and implant

a virus that allows them to maintain control.³⁶ This technique gets away from remote signals detection to find a target, which was the traditional role of the NSA, and moves toward subverting the device to monitor itself.

Islamic State-inspired terrorists have recently demonstrated good opsec. The San Bernardino terrorists used unencrypted burner phones³⁷ on the day of the attack, then destroyed them so that evidence could not be recovered. They also possessed an iPhone, provided by their employer, which the FBI could not crack due to Apple's powerful full device encryption. After four months of failing to gain access, the FBI reportedly paid close to \$1 million to a hacker to find and exploit a vulnerability in Apple's software that allowed them to crack the password and access the phone.³⁸ p

To do this, the FBI likely bought an Oday,^q which would have worked not by immediately hacking the phone but by allowing those trying to break into the phone to guess passcodes quickly, without the normal delay that iPhone uses to defeat brute-force cracking.^r

Conclusion

The encryption used today was not developed by intelligence agencies or militaries but by university students and corporations. Even militaries, however, use this encryption because encryption they would develop themselves just is not good enough. And it is clear from a survey of jihadist publications that all encryption techniques

o They are extremely difficult to find. Intelligence services pay hackers in the controversial Oday market to find bugs and report them to the intelligence agencies. Every time that Microsoft updates Windows or Apple updates the iPhone, the Odays often break, requiring the intelligence agencies to go back to the hackers for replacements.

p After the San Bernardino iPhone was opened by a third party, Apple moved to tighten its full device encryption, recently hiring John Callas, a well-known encryption expert who helped develop both PGP and the Blackphone, to work on the problem in the belief that anything that weakens security for law enforcement ("backdoors") inevitably makes a phone insecure against all other threats. Russel Brandom, "Encryption expert returns to Apple in wake of San Bernardino standoff," *The Verge*, May 26, 2016.

q The iPhone uses full-device encryption with a hardware key that has been entangled with the passcode. Consequently, the only possible way to decrypt the iPhone is with that entangled key. One way to obtain it is by using acid to remove layers from the chip and read that hardware key, but this method carries a high chance of destroying the key before it's read. The only other way is to make frequent guesses of the passcode, and that can only work by using an Oday that bypasses Apple's software designed to prevent guesses. In other words, by design, the only two possible ways to decrypt an iPhone is either by attacking the hardware or brute-force guessing of the passcode using an Oday to disable the anti-guessing software.

r Normally, bad guesses cause the phone to wait longer and longer between guesses, and after 10 bad guesses, the phone is wiped. The Oday exploit the FBI likely purchased prevented both the long wait and the wipe so that an infinite number of guesses could be made as quickly as the phone would allow (roughly 12 guesses per second). Reports are conflicting, however. It may be that the FBI purchased the Oday technique so that they could use it on similar phones, or it may be that the hacker used the Oday and cracked the password for the FBI but did not give them the Oday. See, for example, "Ellen Nakashima, FBI paid professional hackers one-time fee to crack San Bernardino iPhone," *Washington Post*, April 12, 2016.

n An Oday is a software bug that can be used to break into a computer that no one, even the software maker, knows exists. The fact that intelligence services buy Odays from hackers but do not tell the manufacturers is controversial among those working in the tech field.

are known to terrorists.

Software must be written to perform encryption. This, too, is out in the world. The source-code for virtually all encryption is available to anyone who can write software. Indeed, paradoxically, the most trusted encryption software is also the software whose source-code is public, allowing anybody to read it and find flaws before the NSA or GCHQ can. That is why PGP appears so prominently among non-state actors seeking to communicate securely. They can read the code and verify for themselves whether an intelligence agency has inserted a backdoor.

The FBI has called for laws mandating encryption backdoors, but these laws would be mostly futile. They do not apply to software or phones created in other countries, for example. They do not apply to jihadist programmers who create their own apps based on open-source software. This is why many in the intelligence community, such as former head of the NSA Michael Hayden, oppose backdoors.³⁸

So what are the options? Security agencies will need to outsmart the software. In end-to-end encryption, it is no longer viable to crack the encryption in the middle. Intelligence agencies must instead hack the software on the ends. Oday exploits will likely be

the most common way the NSA will eavesdrop on communications in the future – by hacking the “ends” of end-to-end communication with an Oday.

Security services will also have to exploit poor opsec by terrorists. From the perspective of security services the most worrying software is not one with the best encryption but one that allows fewer user mistakes. The opsec feature of self-destructing messages, for example, is probably one of the most frustrating features for intelligence services.

In other words, instead of a team of code breakers, the future will see more and more teams of people dedicated to breaking into software and outwitting users. The NSA’s vast compute power will not be dedicated to complex encryption algorithms but to the rather simple task of guessing that a terrorist’s password is “Password1234.”

Thus, while encryption is itself nearly perfect, the world is not about to enter an era of terrorists communicating with impunity. While end-to-end encryption means security agencies have little hope of cracking the middle, they will still have easy ways to attack the ends, either by hacking the software or outwitting the user. **CTC**

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The Road to Orlando: Jihadist-Inspired Violence in the West, 2012-2016

By Sam Mullins

This analysis of 47 cases of jihadist-inspired violence carried out in Western countries between January 1, 2012, and the June 12, 2016, Orlando attack sheds light on the evolving terrorist threat. The data shows that the Syrian civil war and the rise of the Islamic State have coincided with an increase in the number of attacks, with more than half of all violent incidents taking place in France and the United States. Notwithstanding the recent attacks in Paris and Brussels, most attacks were carried out by individuals with no direct ties to overseas terrorist groups and were low-tech and relatively ineffectual. Half of all attackers had a criminal past, and perhaps as many were unemployed. A majority of attacks targeted civilians, although violence was also frequently directed against members of law enforcement or the military. Knife attacks were the most common while shootings were the deadliest.

Shortly after 2:00 AM on the morning of June 12, 2016, Omar Mateen, an American citizen of Afghan descent, stormed into a gay nightclub in Orlando, Florida, and opened fire with an assault rifle and semiautomatic handgun, killing 49 people. Although many questions remain, Mateen pledged allegiance to the Islamic State in a 911 call made during the attack. This would make it the deadliest terrorist attack in the United States since 9/11 in addition to the deadliest mass shooting regardless of motivation. It thus appears to be the latest in a steadily growing number of jihadist-inspired violent incidents in Western countries. Some of these incidents, most notably the deadly, coordinated assault in Paris last November and the bombing in Brussels four months later, are clearly directed and funded by foreign terrorist organizations (FTOs). Others are carried out independently by autonomous groups and individuals who are often lacking substantial overseas connections but nevertheless share the same murderous ideology, while others still are conducted by troubled individuals who seem to be driven at least as much by mental illness as by exposure to jihadi propaganda¹ or related media coverage.

Precisely where Mateen falls on this spectrum has yet to be established. The manifestation of jihadist-inspired violence in the

West is clearly extremely diverse. It also appears to have increased substantially since the outbreak of war in Syria and the rise of the Islamic State. However, in order to gain a deeper understanding of the nature of the threat, it is important to examine the use of violence more thoroughly. This article analyzes all jihadist-inspired violent attacks executed in Western Europe, North America, and Australia from 2012 to the June 12 Orlando attack (i.e. since the escalation of conflict in Syria and Iraq). The analysis begins with a statistical assessment of the frequency and location of attacks, characteristics of perpetrators—including their links to foreign terrorist organizations (FTOs)—and *modus operandi*, followed by an examination of what the data reveals about the threat trajectory in the West.

Frequency of Attacks

From January 2012 to June 12, 2016, there have been 47 violent attacks in Western countries that were at least partially inspired by Islamist political concerns and/or violent jihadist propaganda and ideas, as promoted by al-Qa`ida and the Islamic State and widely covered in the media.² This compares to just 26 attacks during the entire preceding 11-year period, representing a significant increase in frequency. Moreover, the number of attacks has increased each year, with three in 2012, five in 2013, 11 in 2014, 16 in 2015, and 12 so far in 2016 (compared to five this time last year), which suggests a continuing upward trend in the coming months (see Figure 1).

Of the total 47 jihadist-inspired attacks since 2012, 11 (24 percent) were classified as “borderline,” meaning the jihadist component was present to varying extents but was far from clear, was often downplayed by the authorities, and was frequently overshadowed by mental health issues or bizarre circumstances. Examples include the beheading of a woman in Oklahoma in September 2014,³ an apparently Islamic State-inspired murder in Denmark the following month,³ the Lindt café siege in Sydney in December of the same year,⁴ and a fatal stabbing at Grafing train station, just outside of Munich, in May 2016.⁵ Arguably, such borderline cases should be excluded from the analysis; however, by including them—without necessarily labeling them acts of terrorism—one can gain a more complete understanding of the ways in which jihadist ideas are currently shaping, if not driving the expression of violence in contemporary Western society.

a This data was collected using open sources. Note that in five cases, two or three acts of violence were separated by at least a day, giving a total of 54 actual attacks. These include the attacks by Mohamed Merah, the Tsarnaevs, Ali Muhammad Brown, the Kouachis, and Amedy Coulibaly. In addition, some attacks (such as in Paris and Brussels) involved multiple acts of violence within a short space of time. These are all counted as single cases for the purposes of this analysis. See appendix for full list of cases.

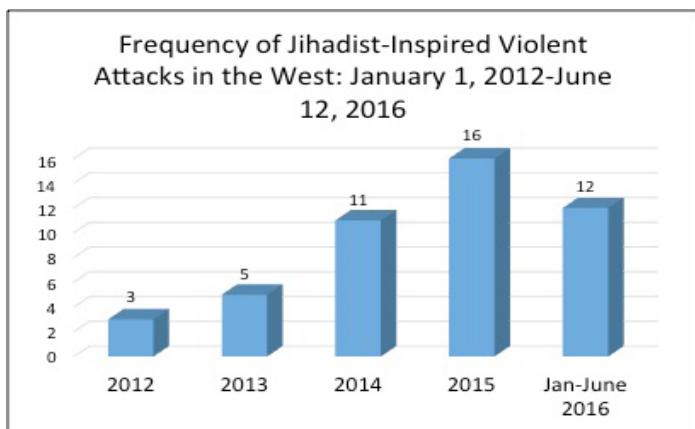


Figure 1: Frequency of jihadist-inspired violent attacks in the West: January 1, 2012-June 12, 2016

Location of Attacks

Since 2012 just eight Western countries have suffered attacks (see Figure 2). In rank order, these are France (17), the United States (10), Germany (five), Denmark and Australia (four each), Canada (three), and the United Kingdom and Belgium (two each). While attacks elsewhere in the West are certainly possible, if not probable, more than 50 percent of attacks so far have occurred in either France or the United States, suggesting that these two countries are particularly likely to experience jihadist-inspired violence in the near future.

Perpetrators

When examining who has been responsible for jihadist-inspired acts of violence in Western countries, it is immediately obvious that the overwhelming majority has been young males. There were 67 male offenders in total, with an average age of 25.9 (n=59), compared to just three females, with an average age of 19.7.^b At least 23 percent of attackers (and perhaps 50 percent or more) were unemployed at the time they committed their offense(s); at least 50 percent had criminal records (all males); at least 20 percent of individuals were Islamic converts; and at least 14 percent had a documented history of psychological problems^c (again, all males).

Although only one of the females committed an offense by herself,^d the vast majority (70 percent) of all attackers acted alone, while another 19 percent acted in pairs, regardless of any extremist or terrorist affiliations. Just seven cases (15 percent) are presently confirmed to have had established links to FTOs, namely Mohamed Merah, Mehdi Nemmouche, and the Kouachi brothers (all linked to al-Qa'ida), and Ayoub el-Khazzani, the Paris and Brussels attackers, and Safia S. (each linked to the Islamic State). At least another two cases involved online communication with Islamic State

members abroad;^e however, for the most part the perpetrators of jihadist-inspired violence in the West have been lacking direct organizational connections or support. Notably, the average number of fatalities for FTO-linked attacks was 26.4, compared to just one for autonomous groups and lone actors.^f

Modus Operandi

In terms of targeting, civilians have borne the brunt of jihadist-inspired violence in the West, much as they do elsewhere, having been targeted in 28 of the 47 cases included in this analysis (i.e. 60 percent; see Figure 3). Moreover, seven attacks against civilians were directed specifically against Jews and six of these took place in France, suggesting that anti-Semitism is particularly strong among French jihadis. Police were attacked in 16 cases (34 percent), although there were not always the primary target, while military personnel were attacked in 10 (21 percent). Different target-types were present in just seven cases (15 percent).

As shown in Figure 4, 21 cases (45 percent) have involved the use of edged weapons (knives and in one instance an ax), making them the weapon of choice among violent jihadis and their imitators in Western countries. A further 18 cases (38 percent) have involved the use of firearms, and these have accounted for the vast majority of casualties. Meanwhile, improvised explosive devices (IEDs) were used in just seven cases, resulting in fatalities in just three (Boston in 2013, Paris in 2015, and Brussels in 2016). Other forms of "weaponry" have included motor vehicles (used in four cases), bare hands (used twice⁶), and boiling water (used just once, in combination with a razor blade⁷). In six cases, not mutually exclusive of those mentioned above, multiple types of weapons were used in combination.

What the Data Shows

Although it is important to bear in mind that the analysis here does not take the wider universe of prevented plots into consideration, it nevertheless provides important insights into the attacks that are most likely to take place. The fact that jihadist-inspired violence has increased substantially since 2012 demonstrates that the radicalizing influence of the conflict in Syria and Iraq, and of the Islamic State in particular, has not been limited to the mobilization of foreign fighters. However, it is important to note that the distribution of executed attacks does not appear to be proportionate to the scale of mobilization of foreign fighters in each country.

For instance, according to official estimates compiled by the Soufan Group, the United Kingdom ranks second in the mobilization of foreign fighters from Western countries, surpassed only by France, and yet has experienced the lowest number of attacks.⁸ Similarly, countries such as Sweden and Austria (jointly ranked fourth in

^b This includes only confirmed, direct perpetrators of violence and therefore excludes any wider support networks.

^c The possibility of mental health issues was raised in another 7 percent of male offenders in the sample.

^d Safia S. stabbed a German police officer in the neck in Hannover in an attempted "martyrdom operation." "German Prosecutors: Teen who Stabbed Cop 'Supported IS,'" *Deutsche Welle*, April 15, 2016.

^e These include the Garland, Texas, attackers of May 2015 and Yassin Salhi, who beheaded his boss in France the following month. Fran Blandy, "French Prosecutor Confirms 'Terror Motive' IS Link to Beheading," *Yahoo News*, June 30, 2015; Rukmini Callimachi, "Clues on Twitter Show Ties Between Texas Gunman and ISIS Network," *New York Times*, May 11, 2015.

^f This calculation excludes the Orlando attack, given that information regarding possible links to FTOs has yet to be confirmed. If indeed Mateen received support from the Islamic State (or any other FTO), this would raise the average number of fatalities in FTO-linked cases to 29.3. If it transpires that Mateen acted autonomously, this would raise the average number of people killed in these cases to 2.4.

Location of Jihadist-Inspired Violent Attacks in the West: January 1, 2012-June 12, 2016

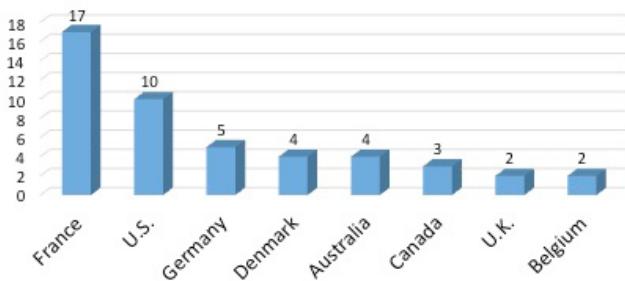


Figure 2: Location of jihadist-inspired violence in the West: January 1, 2012-June 12, 2016

number of foreign fighters) have not experienced jihadist-inspired violence after 2012.^g Of course, given the degree of radicalization and foreign fighter flows, we might expect France to rate highly in terms of domestic attacks; however, to see the United States, which has produced a relatively small number of foreign fighters, in second place is rather more unexpected.

The causes of this variation are likely complex. France and the United States are both high-priority targets for violent jihadis for a variety of reasons, not least of which is their lead roles in the fight against the Islamic State, which raises the likelihood of attacks. The relatively high number of incidents in the United States may also be explained in part by the availability of firearms in combination with a relative lack of domestic facilitation networks in the country and the difficulty in reaching Syria and Iraq, leading to radicalized individuals launching attacks at home instead. Simply put, fewer opportunities to travel overseas to fight may result in greater incentive to act at home. This becomes especially relevant in light of the recent reduction in the rate of mobilization of foreign fighters, including a significant drop-off in the United States.^h Of course, the relative capability and resources of domestic security services also come into play, and yet it is impossible to prevent every attack, especially when faced with the threat of seemingly spontaneous acts of violence by lone extremists.

When it comes to the perpetrators of jihadist-inspired violence, it is quite remarkable to find such high rates of criminality, unemployment, and mental health problems in addition to such a high percentage of Islamic converts. Recent descriptions of Australian and European foreign fighters in particular have tended to emphasize socioeconomic marginalization.¹⁰ However, the percentages here are still surprisingly high when compared to earlier studies based on larger samples.¹¹ There are at least two possible dynamics at play that are worthy of further exploration. One is that the socioeconomic status of Western jihadis in general has declined in recent years. This would be consistent with generational trends described by Marc Sageman¹² as well as current intelligence and law

enforcement assessments. For example, in the United Kingdom, recent research by police and intelligence analysts revealed that "approximately 40 percent of the several thousand Islamist extremists across the country were committing low-level criminality with offenses that included benefit fraud, disqualified driving, and even drug crimes."¹³ Indeed, as the director of Europol, Rob Wainwright, recently remarked, "the link between terrorism and crime is much more prevalent now than at any other time in the past."¹⁴

The other possibility is that there is a qualitative difference between the average Western jihadi and those who actually conduct domestic acts of violence. To some extent, this is a reflection of sampling bias. By focusing only on those attacks that were actually executed, there is a disproportionate number of lone actors (since they are harder to detect in advance) who are especially likely to be suffering from psychological problems.¹⁵ Similarly, the inclusion of "borderline" cases of jihadist-inspired violence, which have become more common in recent years,^h accounts for six out of 10 individuals with a documented history of mental health issues. It is also possible that the high rates of criminality in the current sample are reflective of greater skill and experience among criminals at evading the attention of law enforcement. Still, the perpetrators of jihadist-inspired attacks are still frequently disadvantaged compared to society as a whole. The apparent exception to this is females, who—although there were only three—did not have histories of criminality or mental disorder. The data here is thus suggestive of a mismatch between male and female jihadi offenders, the latter being younger and less obviously marginalized. Whether or not this holds true for Western jihadis in general and whether it is indicative of different motivations and/or processes of radicalization will require further research.

With respect to modus operandi, the observed preference for attacking civilians or unsuspecting uniformed personnel using knives or firearms is again partially related to the predominance of lone actors and the inclusion of borderline cases, both of whom are generally lacking in capability and are therefore more likely to attack soft targets using readily available weapons. What is significant, however, is how these variables have changed over time. Compared to the 26 incidents of jihadist-inspired violence in Western coun-

Targets of Jihadist-Inspired Violence in the West: January 1, 2012-June 12, 2016

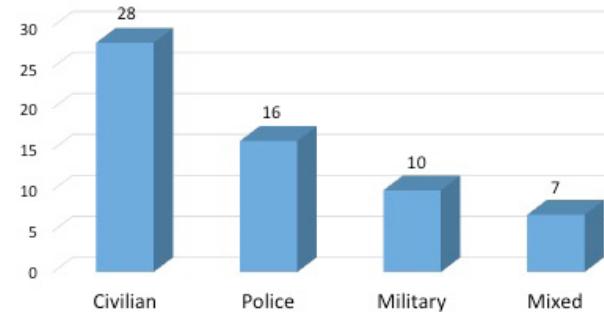


Figure 3: Targets of jihadist-inspired violence in the West: January 1, 2012-June 12, 2016

g In June 2015 a man of Bosnian origin drove a car into pedestrians before exiting the vehicle and attacking people with a knife in the Austrian city of Graz. However, authorities were quick to discount the possibility of terrorism and have not released any information that would indicate jihadist motivation. See "Police Reconstruct Events of Graz Tragedy," The Local, June 23, 2015.

h Only three of 26 jihadist-inspired violent attacks from 2001–2011 were "borderline" cases.

tries from 2001–2011, there is now clearly a stronger preference toward targeting police and using weapons other than explosives.ⁱ The former trend may be due to a combination of contagion (i.e. copycat attacks) and the fact that police are likely to come into contact with criminals and people suffering from mental health problems, who together account for a significant portion of violent jihadist attackers.

As already noted, the latter trend (i.e. away from explosives) is related to the skills and capabilities of lone actors, but it is also a reflection of the willingness of FTOs to encourage and to sponsor directly more rudimentary forms of attack rather than accepting greater risk of detection in the hope of pulling off something more spectacular. Indeed, Islamic State spokesman Abu Muhammad al-Adnani spelled this out in excruciating detail in September 2014 when he declared to his followers that “if you are not able to find an IED or a bullet, then single out the disbelieving American, Frenchman, or any of their allies. Smash his head with a rock, or slaughter him with a knife, or run him over with your car, or throw him down from a high place, or choke him, or poison him.”¹⁶ These sentiments clearly resonate with a significant number of likeminded people and are continually echoed throughout jihadist circles. As one individual recently commented on the dark-web forum Shumukh al-Islam, “A simple operation killing two or three disbelievers and getting martyred in it... is better than a failed operation that didn’t even happen because you were captured.”¹⁷ Of course, the Islamic State’s commitment to attacking the West, combined with the return of significant numbers of foreign fighters—some of whom, like Brussels attacker Najim Lachraoui, will have undoubtedly trained in explosives—suggests that we may yet witness a resurgence in the successful use of IEDs. Then again, this does not negate the increased chances of detection nor the fact that it is lone actors and small, independent groups that are consistently responsible for the majority of jihadist-inspired violence in the West. Whether or not he received any external support, Mateen’s actions are a reminder that individual attackers can achieve mass casualties. The majority, however, do not.

ⁱ More specifically, the percentage of civilian targets attacked from 2001 to 2011 was 77 percent, which afterward reduced to 60 percent. Police targets increased from 4 percent to 34 percent, while military targets remained fairly constant at 19 percent and 21 percent, respectively. As for weaponry, use of explosives decreased dramatically from 50 percent to just 15 percent; firearms increased from 23 percent to 38 percent; edged weapons increased from 19 percent to 45 percent; and cars increased from 4 percent to 9 percent.

Weapons Used in Jihadist-Inspired Violent Attacks in the West: January 1, 2012-June 12, 2016

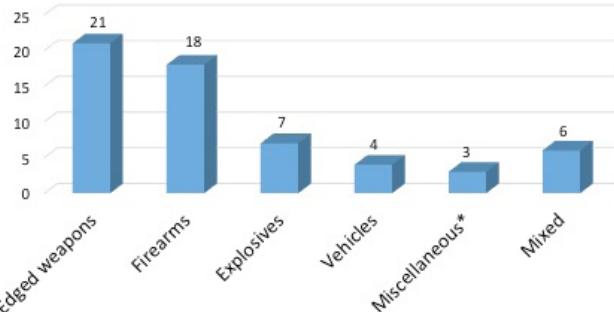


Figure 4: Weapons used in jihadist-inspired violent attacks in the West: January 1, 2012–June 12, 2016 (*Miscellaneous refers to bare hands/boiling water.)

Conclusion

Amidst the current climate of fear and uncertainty largely centered around the Islamic State, there is a need for objective, empirically grounded analysis of jihadist-inspired violence. Although there is little doubt that the threat to the West has never before been greater, this reveals relatively little about what to expect. By examining the occurrence of jihadist-inspired violence as opposed to thwarted plots, which are often rather more ambitious, one gains a deeper appreciation of what is most likely to actually take place. On the one hand, the frequency of attacks has certainly increased. On the other hand, despite recent events, lethality has not. The average number of people killed in Western countries during the period 2001–2011 (excluding 9/11) was 10.1, compared to six from 2012–2016.

The fact remains that despite the Islamic State’s best efforts so far, the most likely attack scenario still involves lone actors (a significant number of whom appear to be driven as much by mental illness as by jihadist ideology) or small autonomous groups, using readily available weapons to attack soft targets and yet still generally resulting in failure. Granted, the situation is extremely dynamic and the tragic events in Orlando underscore the fact that terrorists do sometimes succeed in dramatic fashion. It is also quite possible that others will be inspired by Mateen and seek to replicate his actions elsewhere. Yet this does not change the overall balance of probabilities. The majority of jihadist-inspired violence in the West remains low-tech and, overall, relatively small-scale. **CTC**

Appendix: List of attacks included in the analysis

Cases marked with an asterisk are “borderline,” meaning questions remain about the motives involved.

2012

March (France): Toulouse/Montauban shootings (7 dead)
 September (France): Grenade attack on Jewish supermarket, Paris
 December (Germany): Attempted bombing of Bonn train station

2013

February (Denmark): Attempted murder of Lars Hedegaard*

April (United States): Boston marathon bombing and murder of police officer (4 dead)
 May (France): Stabbing of a gendarme, Rousillon, Isère*
 May (United Kingdom): Murder of a British soldier, Woolwich, London (1 dead)
 May (France): Stabbing of a soldier, Paris

2014

April–June (United States): Three shootings in Washington and New Jersey (4 dead)
 May (Belgium): Shooting at Jewish Museum, Brussels (4 dead)
 September (Australia): Stabbing of two police officers, Melbourne
 September (United States): Beheading, Moore, Oklahoma (1 dead)*
 October (Canada): Two Canadian soldiers run over, Quebec (1 dead)
 October (Canada): Shooting at Parliament Hill, Ottawa (1 dead)
 October (United States): Ax attack on NYPD officers, New York
 October (Denmark): Islamic-State-inspired murder, Kvissel (1 dead)*
 December (Australia): Lindt café siege, Sydney (2 dead)*
 December (France): Attempted stabbing of police officers, Joue-les-Tours*
 December (France): Car driven into pedestrians, Dijon*

2015

January (France): Attempted strangling of a police officer, Metz*
 January (France): Charlie Hebdo attacks, Paris (12 dead)
 January (France): Shooting plus Jewish supermarket siege, Paris (5 dead)
 February (Denmark): Copenhagen shootings (2 dead)
 May (United States): Shooting attack, Garland, Texas
 June (France): Beheading, St.-Quentin-Fallavier (1 dead)
 July (United States): Chattanooga shootings (5 dead)
 August (France): Attempted attack on Thalys train from Amsterdam to Paris
 September (Germany): Stabbing of a policewoman by a convicted terrorist*

September (Denmark): Stabbing of a policeman, Sandholm asylum center*
 October (Australia): Murder of a NSW police employee, Sydney (1 dead)
 November (United States): Stabbing spree at University of California
 November (France): Stabbing of a Jewish teacher, Marseille
 November (France): Paris attacks (130 dead)
 December (United States): San Bernardino shooting (14 dead)
 December (United Kingdom): Leytonstone Tube stabbing, London

2016

January (France): Car driven at French soldiers guarding a mosque, Valance
 January (France): Attempted knife attack at Paris police station
 January (United States): Attempted murder of a police officer, Philadelphia
 January (France): Stabbing of a Jewish teacher, Marseille
 February (Germany): Stabbing of a policeman, Hannover
 March (Canada): Stabbing at a Canadian Forces recruitment center
 March (Belgium): Bombing of Brussels airport and metro (32 dead)
 April (Australia): Islamic State-inspired assault within prison, NSW
 April (Germany): Bombing of a Sikh temple, Essen
 May (Germany): Stabbing at Grafing train station, Munich (1 dead)*
 May (France): Stabbing of a French soldier, Saint Julien du Puy
 June (United States): Nightclub massacre, Orlando (49 dead)

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